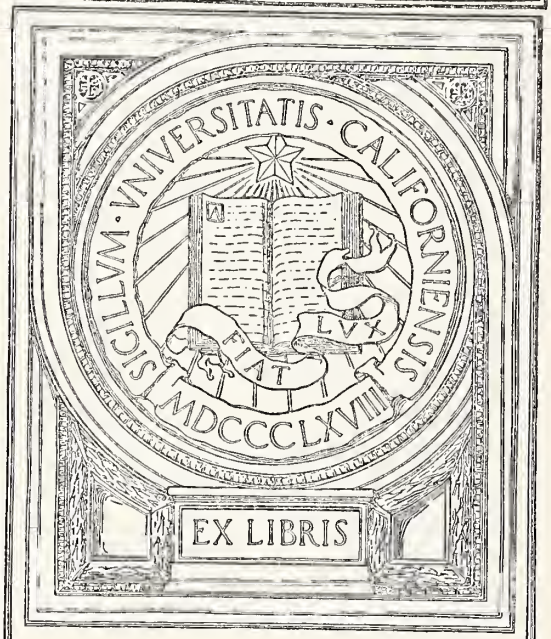
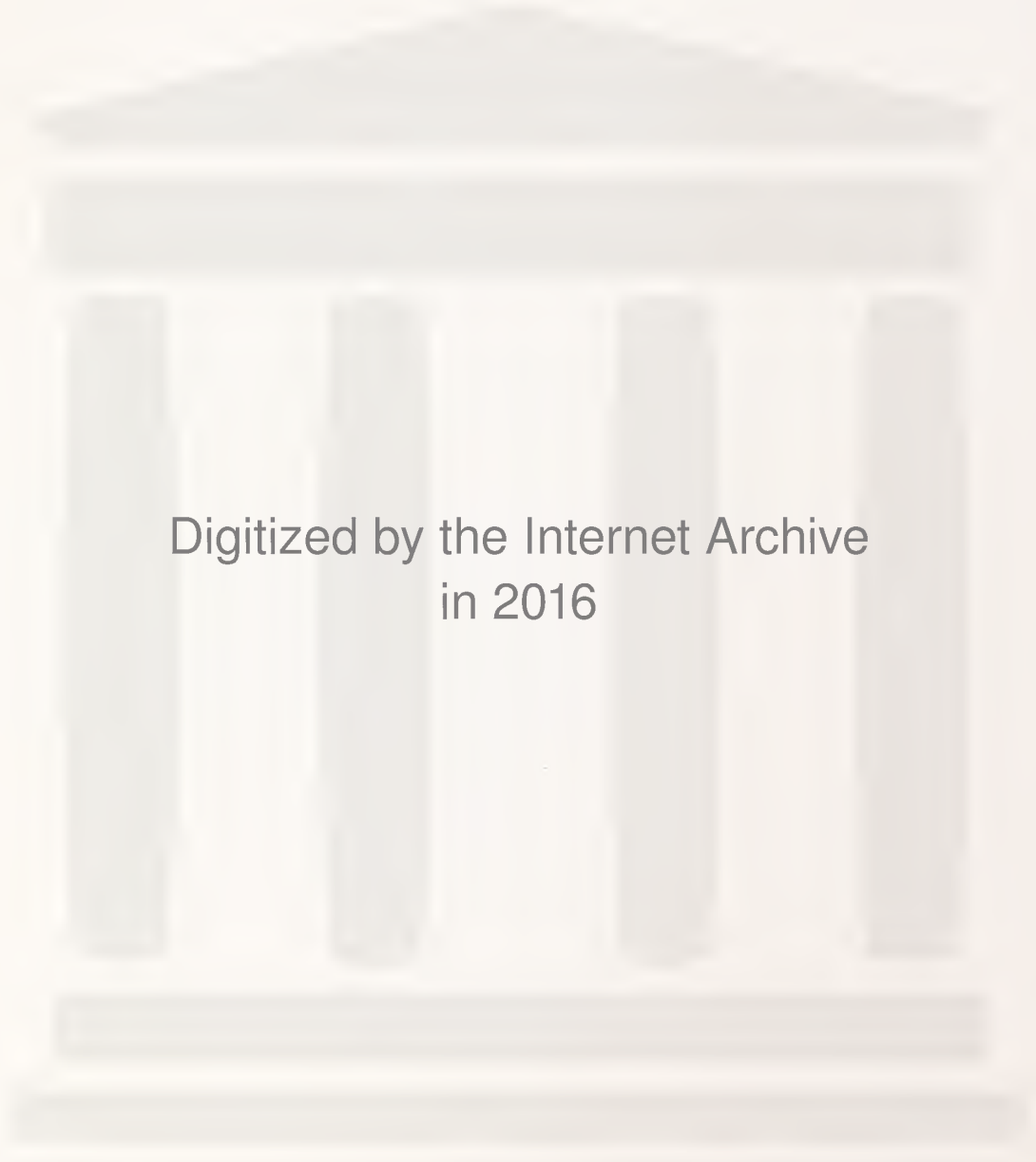
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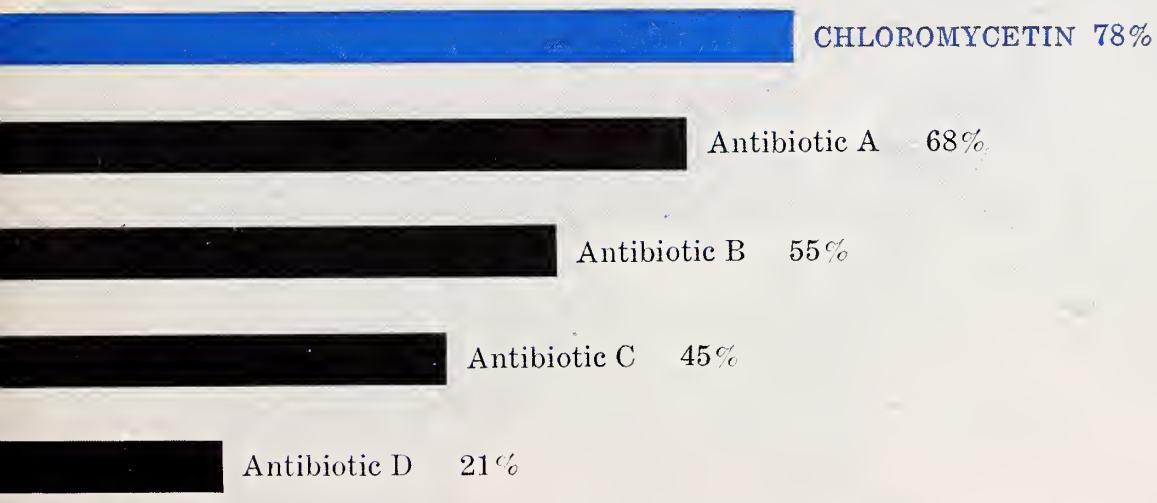
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Adapted from Bauer, Perry, & Kirby[1]

References: (1) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960. (2) Fisher, M. W.: *Arch. Int. Med.* 105:413, 1960. (3) Cohen, S.: *Circulation* 20:96, 1959. (4) Edwards, T. S.: *Am. J. Ophth.* 48, Part II:19, 1959. (5) Smith, I. M.: Staphylococcal Infections, Chicago, The Year Book Publishers, Inc., 1958, p. 148. (6) Petersdorf, R. G.; Rose, M. C.; Minchew, H. B.; Keene, W. R., & Bennett, I. L., Jr.: *Arch. Int. Med.* 105:398, 1960. (7) Editorial: *J.A.M.A.* 173:544, 1960. (8) Finland, M.; Jones, W. F., Jr., & Bennett, I. L., Jr.: *Arch. Int. Med.* 104:365, 1959.

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MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

July, 1961 Vol. 18, No. 7

Table of Contents

ARIZONA MEDICAL ASSOCIATION REPORTS

BOARD OF DIRECTORS MEETING — April 28, 1961 (Minutes) 9A
MINUTES, AD HOC MINISTERIAL LIAISON COMMITTEE MEETING 12A
"ON AGING" 14A
Samuel J. Grauman, M.D.

ORIGINAL ARTICLES

RECENT TRENDS IN MEDICAL ECONOMICS — HISTORY AND PROPHECY 181
Russel V. Lee, M.D.
WHERE CAN COCCIDIOIDOMYCOSIS BE ACQUIRED IN ARIZONA? 184
Keith T. Maddy, D.V.M., M.P.H., — H. Gilbert Crecelius, Ph.D.
Richard G. Cornell, Ph.D.
EMIVAN, A COCCIDIOIDAL FUNGICIDE 195
Robert Cohen, M.D.
URETERAL OBSTRUCTION 196
Clarence V. Hodges, M.D.

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

ANNUAL MEETING — 1961 — Hermosillo, Mexico 28A

PRESIDENT'S PAGE

ADDRESS TO WOMAN'S AUXILIARY — April, 1961 31A
Leslie B. Smith, M.D.

EDITORIALS

WOULDN'T THREE BE BETTER? 37A
R. Lee Foster, M.D.
EDITOR'S NOTES 38A
LETTER TO THE EDITOR 38A
Paul B. Jarret, M.D.

IN MEMORIAM

FREDERICK VALLES, M.D. 40A

TOPICS OF CURRENT MEDICAL INTEREST

ARIZONA POISON CONTROL CENTERS 45A
TOXICITY OF SELENIUM SULFIDE (SELSUN) SUSPENSION 46A
CONTAGIOUS DISEASE REPORTING 47A
THE BENEVOLENT AND LOAN FUND 48A
Carl A. Holmes, M.D.

REPRINTS

THE HERRONVOLK RIDE AGAIN 59A
Mark D. Altschule, M.D.
NEW DIAGNOSTIC TEST FOR LUPOS ERYTHEMATOSUS 60A

DIRECTORY

OFFICERS AND COMMITTEES 6A
SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTE AMERICA Y MEXICO 7A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 7A
WOMAN'S AUXILIARY 7A
INDEX TO ADVERTISERS 66A

Published monthly by the Arizona Medical Association, Inc. Business office at 4533 North Scottsdale Road, Suite 211, Scottsdale, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.



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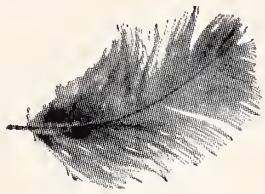
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1844 E. Keim Drive, Phoenix 16, Arizona

Student Nurse Loan Fund.....Mrs. Juan Fonseca (Virginia)
2505 Indian Ridge Drive, Tucson, Arizona

Workshop Advisor Mrs. Hiram D. Cochran (Mary)
35 Camino Espanol, Tucson, Arizona

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Box 1207, Miami, Arizona

Maricopa County Mrs. Richard B. Johns (Ruth)
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Pima County Mrs. Frederick J. Hirsch (June)
5817 E. Fourth Street, Tucson, Arizona

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810 Norris Road, Prescott, Arizona

Yuma County Mrs. Ellis Browning (Olive)
2200 16th Place, Yuma, Arizona

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MEDICAL SOCIETY OF THE UNITED STATES & MEXICO

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References: 1. Garber, R. C.: J. Florida M. A. *45*:549 (Nov.) 1958. 2. Lipton, M. I.: Pennsylvania M. J. *64*:60 (Jan.) 1961. 3. Ayd, F. J., Jr.: Psychotropic Drugs, S. Garattini and V. Ghetti, eds., New York, Elsevier Publishing Co., 1957, p. 548. 4. McGettigan, D. L.: West. Med. *1*:8 (Jan.) 1960.

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Arizona Medical Association Reports

Arizona Medicine

July, 1961 Vol. 18, No. 7

Board of Directors Meeting April 28, 1961 Minutes Board Organization

Doctor Yount welcomed and introduced the newly elected members of the Board of Directors: Doctors Clyde Barker, Jr., (1961-64), W. Albert Brewer (1961-62), John A. Eisenbeiss (1961-64) and Noel G. Smith (1961-64), all of Phoenix, Central District Directors; Joseph P. McNally (1961-64) of Prescott, Northwestern District Director; Earl R. Baldwin (1961-62), James O'Hare (1961-64) and John R. Schwartzmann (1961-64) all of Tucson, Southern District Directors. The Chairman further pointed out that Doctor Lindsay E. Beaton of Tucson, in addition to serving as a member of of the Board as Past President (1961-62), is also serving as the recently elected second delegate to the AMA for the years 1961 and 1962. The Association becoming a two delegate state effective January 1, 1961.

Doctor Beaton placed in nomination the name of William B. Steen, M.D., Vice President to serve as Chairman of the Board for the ensuing fiscal year 1961-62, it being customary that the Vice President assume this position.

It was moved and unanimously carried that the nominations be closed, the Secretary declaring Doctor Steen unanimously elected Chairman of the Board for the ensuing fiscal year 1961-62, whereupon Doctor Steen assumed the Chair on relinquishing of the gavel by Doctor Yount.

ARMA House of Delegates — Resolution No. 6

Resolution No. 6 adopted by the House of Delegates of the Association in Annual Meeting held in Scottsdale, April 28, 1961, as amended: "to allow idstribution to be at the discretion and advice of the Central Office and the Board of Directors", referable to Resolutions No. 1 — Social Security and the Physician; No. 2 — Keogh-Simpson legislation and other voluntary retirement programs for the self-employed; No. 3 — all Federal legislation (e.g., Forand Bill, King-Anderson Bill (H.R. 4222) proposed health care under the social security system, and any other type of socialized medicine measure; No. 4 — voluntary health and accident insurance programs to cover the health and needs of our senior citizens and other segments of the population; and No. 5 — Kerr-Mills Bill and similar legislation to provide health care for the needy aged; each similarly adopted by the House of Delegates in Annual Meeting, Apirl 28, 1961, were presented for discussion and disposition as directed.

It was moved and unanimously carried that this matter be put in the hands of the Executive Committee for implementation and final disposition.

COMMITTEE MEMBERSHIP APPOINTMENTS

The following commitee appointments were made by the President, Leslie B. Smith, M.D., for approval by the Board of Directors in accordance with the By-Laws of this Association:

STANDING COMMITTEES

Benevolent and Loan Fund Committee

Doctor Donald K. Buffmire (Phoenix) (1959-62) was designated Chairman and Doctors Preston T. Brown (Phoenix) reappointed and Roland V. Murphy (Tucson) appointed members, each for the term 1961-64.

Doctors Arthur V. Dudley, Jr., Treasurer, (Tucson) — (specified); Doctor Paul L. Singer, Secretary, (Phoenix) — (specified); and Doctor Carl H. Gans (Morenci) (1960-63) complete the composite membership of the Benevolent and Loan Fund Committee.

Grievance Committee

Doctor Lindsay E. Beaton (Tucson-Pima), Past President, assumes the Chairmanship for 1961-62 (specified).

Doctor Francis M. Findlay (San Manuel-Pinal) and Doctor John F. Stanley (Yuma-Yuma) were appointed members of the Grievance Committee for the term 1961-64.

Doctor Carlos C. Craig (Phoenix-Maricopa) (1959-62); Doctor Oscar W. Thoeny (Phoenix-Maricopa) (1959-62); Doctor Hugh C. Thompson, Jr., (Tucson-Pima) (1960-63); and Doctor Florence B. Yount (Prescott-Yavapai) (1960-63) complete the composite membership of the Grievance Committee.

History and Obituaries Committee

Doctor John W. Kennedy (Phoenix) (1959-62) was designated Chairman, Doctor Howell S. Randolph (Phoenix) was reappointed and Doctor Edward M. Hayden were appointed members of the History and Obituaries Committee for the term 1961-64. Doctor Paul L. Singer, Secretary, (Phoenix) — (specified); Doctor Darwin W. Neubauer, Editor-in-Chief, (Tucson) — (specified); and Doctor Abe I. Podolsky (Yuma) (1960-63) complete the composite membership of the History and Obituaries Committee.

Industrial Relations Committee

Doctor John H. Ricker (Phoenix) (S-Hand) (1959-62) was designated Chairman; Doctor Charles P. Neumann (Tucson) (PN) was reappointed; and Doctor Oscar W. Friske (Ajo) (S-Ind) (1961-64) was appointed a member of the Industrial Relations Committee. Doctor John F. Curirn (Flagstaff) (Ca) (1959-62); Doctor Juan E. Fonseca (Tucson) (NS) (1960-63); and Doctor Robert W. Weber (Tucson) (Or) (1960-63) complete the composite membership of the Industrial Relations Commitee.

Legislative Committee

Doctor Derrill B. Manley (Phoenix) (1961-64) was appointed and designated Chairman; Doctor Jesse D. Hamer (Phoenix) was reappointed and designated Co-chairman; Doctor James E. O'Hare (Tucson); and Doctor Ben P. Frissell (Phoenix) were appointed members of the Legislative Committee for the term 1961-64.

Doctor John S. Carlson (Nogales) (1960-63); Doctor Paul B. Jarrett (Phoenix) (1960-63); Doctor W. Shaw McDaniel (Phoenix) (1959-62); Doctor William B. Steen (Tucson) (1960-63); Doctor George C. Truman (Mesa) 1959-62); and Doctor MacDonald Wood (Phoenix) (1959-62) complete the composite membership of the Legislative Committee.

It was further directed that the Legislative Committee use the current component county medical society presidents as an advisory body to the Legislative Committee (for the term 1961-62).

Medical Economics Committee

Doctor Ian M. Chesser (Tucson) (1961-64) was reappointed and designated Chairman; and Doctor John A. Eisenbeiss (Phoenix) (1961-64) was reappointed a member of the Medical Economics Committee.

Doctor Benjamin Herzberg (Phoenix) (1959-63); Doctor James E. O'Hare (Tucson) (1960-63); Doctor Donald A. Polson (Phoenix) (1960-63); and Doctor Paul L. Singer, Secretary, (Phoenix) (1959-62) complete the composite membership of the Medical Economics Committee.

Medico-Legal Committee

Doctor Wallace A. Reed (Phoenix) (1960-63) was designated Chairman; Doctor Jack E. Brooks (Phoenix) and Doctor George A. Spikes (Douglas) were appointed members of the Medico-Legal Committee for the term 1961-64.

Doctor Robert E. Hastings (Tucson) (1959-62); Doctor Louis Hirsch (Tucson) (1960-63); and Doctor Maurice Rosenthal (Phoenix) (1959-62) complete the composite membership of the Medico-Legal Committee.

Professional Committee

Doctor Robert B. Leonard (Phoenix) (S) (1961-64) was reappointed and designated Chairman; Doctor Ray Fife (Phoenix) (Or) (1961-64); and Doctor Howard W. Kimball (Phoenix) (GS) (1961-64) were reappointed members of the Professional Committee. Doctor James D. Alway (Phoenix) (Or) (1961-62); Doctor W. Albert Brewer (Phoenix) (S) (1961-64); Doctor Henry P. Limbacher (Tucson) (GS) (1961-63); Doctor George G. McKhann (Phoenix) (I) (1961-64); Doctor Herman S. Rhu (Tucson) (ObG) (1961-64); and Doctor Charles A. L. Stephens Tucson) (I) (1961-63) were appointed members of the Professional Committee.

Doctor Otto L. Bendheim (Phoenix) (PN) (1960-63); Doctor Orin J. Farness (Tucson) (I) (1959-62); Doctor Richard B. Johns (Phoenix) (Pd) (1959-62); Doctor Paul J. Slosser (Yuma) (GP) (1960-63); and Doctor Lowell C. Wormley (Phoenix) (GP) (1959-63) complete the composite membership of the Professional Committee.

Professional Liaison Committee

Doctor Ben P. Frissell (Phoenix) (I) (1959-62) was designated Chairman. Doctor Noel G. Smith (Phoenix) (GP) (1961-64) was reappointed; Doctor Clyde W. Kurtz (Phoenix) (U) (1961-64); Doctor Delbert L. Secrist (Tucson) (S) (1961-64); and Doctor Hugh H. Smith (Tucson) (PH) (1961-64) were appointed members of the Professional Liaison Committee.

Doctor Ernest A. Born (Prescott) (GP) (1960-63); Doctor Max Costin (Tucson) (ObG) (1960-63); Doctor William G. Payen (Tempe) (GP-ObG) (1959-62); Doctor Albert G. Wagner (Phoenix) (S) (1960-63); and Doctor Roy O. Young (Flagstaff) (ObG) (1959-62) complete the composite membership of the Professional Liaison Committee.

Public Relations Committee

Doctor Roland F. Schoen (Casa Grande) (1960-63) was designated Chairman. Doctor Robert H. Bullington (Phoenix); Doctor Charles H. Finney (Phoenix); Doctor Fred L. Goff (Douglas) Doctor Ralph T. Irwin (Yuma); Doctor John F. Kahle (Flagstaff); Doctor J. Edwin Keppel (Mesa); and Doctor Clarence L. Robbins (Tucson) were appointed members for the term 1961-64.

Doctor Howard W. Finke (Superior) (1960-62); Doctor Paul B. Jarrett (Phoenix) (1959-62); Doctor Clarence H. Kuhlman (Tucson) (1960-63); Doctor W. R. Manning (Tucson) (1959-61); and Doctor Leo L. Tuveson (Phoenix) (1960-63) complete the composite membership of the Public Relations Committee.

Publishing Committee

Doctor Darwin W. Neubauer, Editor-in-Chief, was designated Chairman for the 1961-62 term (specified). Doctor Clarence L. Robbins was reappointed as member for the term 1961-64.

Doctor R. Lee Foster (Phoenix) (1959-62); and Doctor John R. Green (Phoenix) (1960-63) complete the composite membership of the Publishing Committee.

Scientific Assembly Committee

Doctor Richard O. Flynn (Tempe) was designated Chairman and Doctor Clarence E. Yount, Jr., (Prescott), President-elect, was designated as Co-chairman for the term 1961-62.

The following members recommended were appointed on a staggered three-year term basis in accordance with By-Laws amendment adopted April 28, 1961, the Scientific Assembly Committee to give consideration and stipulate the terms on a staggered basis: Doctor James E. Brady, Jr., (Tucson) (Southern) (GP); Doctor Richard E. H. Duisberg (Phoenix) (Central) (PN); Doctor Richard O. Flynn (Tempe) (Central) (GP); Doctor Fred L. Goff (Douglas) Southeastern) (GP); Doctor David C. James (Phoenix) (Central) (GS); Doctor Richard B. Johns (Phoenix) (Central) (Pd); Doctor Fred H. Landeen (Tucson) (Southern) (Anes); Doctor William H. Lyle (Yuma) (Southwestern) (GP); Doctor Darwin W. Neubauer (Tucson) (Southern) (S); Doctor Walter M. O'Brien (Globe) (Northeastern) (GP); Doctor Edward Sattenspiel (Phoenix) (Central) (ObG); Doctor Roland F. Schoen (Casa Grande) (Southwestern) (S-GP); Doctor John R. Schwartzmann (Tucson) (Southern) (Or); and Doctor William B. Steen (Tucson) (Southern) (I-A).

SPECIAL COMMITTEES

Articles of Incorporation and By-Laws Committee

Doctor Paul B. Jarrett (Phoenix) was reappointed and designated Chairman; Paul L. Singer, Secretary, (Phoenix) was reappointed; Doctor Walter Brazie (Kingman) and Doctor Frank A. Shellenberger (Tucson) were all appointed

members of the Articles of Incorporation and By-Laws Committee for the term 1961-62.

Central Office Advisory Committee

Doctor Arthur V. Dudley, Jr., Treasurer, (Tucson) was appointed and designated Chairman; Doctor Paul Singer, Secretary, (Phoenix) and Doctor William B. Steen, Vice President, (Tucson) were appointed members of the Central Ofifce Advisory Committee for the term 1961-62.

Executive Committee

Doctor Leslie B. Smith, President, (Phoenix) was designated Chairman; Doctor Clarence E. Yount, Jr., President-elect, (Prescott); Doctor William B. Steen, Vice President, (Tucson); Doctor Paul L. Singer, Secretary, (Phoenix); and Doctor Arthur V. Dudley, Jr., Treasurer, (Tucson) constitute the Executive Committee for the term 1961-62.

Medical School Committee

Doctor W. Albert Brewer (Phoenix) was reappointed and designated Chairman; Doctor Lindsay E. Beaton (Tucson); Doctor W. R. Manning (Tucson); Doctor Dermont W. Melick (Phoenix); and Doctor Clarence L. Robbins (Tucson) were all reappointed members of the Medical School Committee for the term 1961-62.

Procurement and Assignment Committee

Reactivated is the Procurement and Assignment Committee. Doctor Joseph M. Greer (Phoenix) (Central) (Retired) (1961-62) was appointed and designated Chairman; Doctor Robert N. Class (Tucson) (Southern) (I); Doctor John F. Currin (Flagstaff) (Northwestern) (I); Doctor Ruland W. Hussong (Phoenix) (Central) (GP-ObG); Doctor Robert M. Matts (Yuma) (Southwestern) (GP); and Doctor Joseph P. McNally (Prescott) (Northwestern) (GP)) wer appointed to the Procurement and Assignment Committee for the term 1961-62.

It was moved and unanimously carried that these appointments to both Standing and Special Committees as presented by the President be approved and confirmed by the Board of Directors.

MEETING ADJOURNED AT 6:15 P.M.

Paul L. Singer, M.D.
Secretary

AD HOC MINISTERIAL LIAISON COMMITTEE

The first meeting of the Ministerial Liaison Committee was held on 4-21-61. Those attending the meeting were:

Dr. Glen McGee, Reverend Powell Green, Reverend Charles S. Schmitz, Reverend Elliot Luther, Reverend Lewis S. Eaton, Derrill B. Manley, M.D., James D. Barger, M.D., Leo L. Tuvesom, M.D., Philip G. Derickson, M.D.

The meeting was opened by a prayer by Reverend Charles E. Schmitz. That section of the Arizona Revised Statutes pertaining to marital and domestic relations Title 25, Chapter 1, Section 25-103.01 was read, and it was noted that the following wording is used: "Certificate shall state that the applicant has been given such examination, including a standard serological test, as may be necessary for the discovery of syphillis." The minutes of the meeting of the Executive Committee of the Arizona Medical Association, Inc., held 10-22-60 in reference to the interview with members of the Arizona Council of Churches was also read. An editorial "The Premarital Examination" was then read from the January-February 1961 issue of Hawaii Medical Journal.

Dr. James Barger then discussed the historical background regarding the objection on the part of some members of the Maricopa Medical Society, particularly the pathologists, when the initiative measure was proposed in 1956. The objections which have been put forth recently regarding the facts that the standard serological tests rarely reveal infectious syphillis, that many of the positive reactions are false, that there are better methods of case finding than pre-marital serological tests were brought out at that time. A review of the transcript of the House of Delegates meeting held on 4-26-56 and the resolution presented and adopted by the House of Delegates on 4-25-56 shows no evidence of objection by any doctors present at that meeting. Dr. Barger continued with the historical background, stating that the measure became law and that most of the objectors have remained quiet. A general discussion regarding serological testing for syphilis was then led by Dr. Barger in which it was pointed out that in testing the hospital

population, one to two per cent revealed a positive serological testing. He estimated that one-half of these positive serological tests were positive for syphilis. The other half were false positive.

It was generally agreed that for the purpose of any further discussion of this subject, findings should be obtained from the State Department of Health regarding any possible changes which have taken place since this law became effective and whether there has been any significant increase in the reported incidence of syphilis, etc. Dr. Barger pointed out that a state law requires that every pregnant woman must have a standard serological test prior to delivery of each baby, thus partially answering the criticism that a negative standard serological test at the time of applying for a marriage license perhaps would not reveal a recent infection with syphilis which could be transmitted to a child subsequent to the marriage. It was also pointed out that there has been no criticism of the law requiring a standard serological test for a pregnant woman, although it would appear that those criticisms which have been leveled at the pre-marital examination standard serological test would hold in either case.

Dr. Barger summarized his report by pointing out that the diagnosis of syphilis is not based on a laboratory test, but is rather the result of a physical examination. In reviewing the wording of the statute, it is noted that the law calls for "such *examination,* including a serological test, as may be necessary for the discovery of syphilis."

It was generally agreed by all members present that the law requires a physical examination, admittedly limited to the search for evidence of syphilis, but definitely an examination of the person and not solely the standard serological test. The Reverend Mr. Schmitz commented that he was chairman of the conference sponsoring this measure, and that he knew of some opposition to the measure on the part of pathologists particularly, at the time, and was surprised that the Medical Association backed the measure without reservation. He expressed the view as being the consensus of all ministers that the waiting period certainly should be preserved, and deferred the matter of the serology to the medical profession.

The Reverend Mr. Green commented that the waiting period is of advantage, and praised the initiative measure because of the opportunity it gives for counselling, particularly since the applicants for marriage are referred to a physician who is in a position to counsel in much the same way as the minister.

The Reverend Mr. Eaton reviewed his plan of counselling with married couples and indicated that one of his points of advice is that the couple select a family physician and arrange separate appointments so that the doctor can perform a physical examination prior to their marriage.

Dr. Glen McGee expressed the opinion that the present law and the serological test may not be fully adequate, but they represent the most adequate means we have at the present time under the law for this purpose. He also revealed that he has heard no serious obtections to this law from any of the couples that he has counseled. He expressed a desire for more help from physicians on counselling couples anticipating marriage and he believes that this is a field in which the physicians could be much more effective with more time and effort. He acknowledged that many physicians are now carrying out pre-marital counselling along with their physical examination, but expressed the hope that this degree of excellence would be more wide spread.

After further discussion of the status of the present statute it was moved by Doctor Barger that this committee submit a recommendation to the Arizona Medical Association that no change be made in the law. The motion was seconded and passed unanimously.

The ministers attending the meeting expressed a desire for more rapport between the physician and the theologians regarding treatment of the whole person. Several proposals were made informally regarding the possibility of having a state wide meeting of ministers and doctors for the purpose of education and study of problems common to the two groups. The second proposal was for local groups of doctors and ministers to discuss their common grounds in their communities, rather than to start out on a state wide basis.

Dr. Manley indicated that it was his belief that physicians would respond to such a meeting if the connection between the doctors and the theologians would be clearly adopted to medicine rather than basing the meeting on the "no

man's land of emotional and spiritual problems."

In summary, it is the consensus of the Ministerial Liaison Committee that the present statute should not be repealed, but that the physicians of the state should be advised of the interpretation of the wording "such examination, including a standard serological test, as may be necessary for the discovery of syphilis." This will require that each applicant for marriage will have a physical examination, admittedly limited, but adequate for the discovery of syphilis. The statute clearly indicates that merely the obtaining of a standard serological test is not the meaning of the law. In the light of this interpretation, we believe that the statute is not objectionable, and recommend no change.

Respectfully submitted

Philip G. Derickson, M.D., Chairman
Ad Hoc Ministerial Liaison Committee
Arizona Medical Association, Inc.

ON AGING

PLUS CA CHANGE, PLUS C'EST LA MEME CHOSE

The world changes. The solutions to problems alter but the questions do not. Population expands at an explosive rate and we who are practicing medicine are in large degree responsible for this explosion at either end of the age scale. It behooves us, thus, to concern ourselves intimately with all details of the explosion for which we are in a fundamental sense responsible.

The world changes. The primitive Eskimo answers the problems of the aging by leading willingly into the storm and the cold the aged and the infirm who are no longer able to contribute their share to the upkeep of the community. In an earlier and simpler civilization in our own country, the aged were cared for in the houses which they had built with the strength of their hands on the land which they had tilled with the love of their hearts, bound in a sense to a common destiny to those who were younger than they by the love of the land and the love of the home.

The world changes, but the questions remain. When our civilization moved from an agricultural to a more industrial society, the provision for those who were growing older and who were less productive was first sought in Time. Plans of one sort or another including, ultimately, old age and survivor's insurance, established an arbitrary date in life at which an individual was considered to have entered a golden era in which he might walk quietly and placidly down the road to oblivion. It is evident that this technique ignores a fundamental change in the status of the aging which we who practice medicine have introduced into our modern civilization, namely that the aging constitute no special group of necessity infirm and incompetent, but only a certain number of individuals of taste and attitudes modified but little through the experience of living. The American Medical Association in its recent reports on the subject of aging has carefully stressed the fact that there are per se no diseases *of* the aged, but only diseases *in* the aged. Concurrent studies done elsewhere tend to indicate too, that the aged, in their psychosomatic attitudes, preserve fundamental concepts to the end of their days that were present throughout all their lives. From this it is fairly apparent that the problems which exist relative to the aged and aging are problems which in large degree are artificially foisted upon them and engendered by the rules and regulations of our society.

As doctors we must concern ourselves with several aspects of the problem of aging. First and foremost, of course, we are charged with adequate care of the physical health needs of those individuals who have passed beyond the prime of life. Additionally throughout all its career medicine has sought to give care to all those who require it, without compensation if need be, or for such compensation as the individual can afford. With the complexity of modern diagnostic and therapeutic regimens, however, it is not enough for the physician himself to offer his care to an individual on a free or a part-pay basis since much of the control of the diagnostic and therapeutic means requisite to the total care of a patient is no longer in the hands of the individual practitioner. Numerous means of avoidance of this dilemma have been sought. The most recent of these is an effort to impose upon the aging population a compulsory type of health insurance through the offices of the social security system. In our own state the approach is unrealistic; fully 50% of the aged within our state have no social security coverage. Of the

remaining 50% who are so covered, it is dubious that even a significant percentage is in need of government help in defraying medical expense. A recent hospital survey conducted in southern Arizona tends to indicate that probably more than 90% of all individuals over 65 years of age requiring hospitalization were able to finance the cost of this hospitalization either by themselves, through savings, through insurance, or thorugh the assistance of immediate relatives. In our conscience, as physicians, however, the knowledge that even 10% are incapable of meeting their basic requirements, should be too much. Voluntary health plans are expanding apace. They have shown themselves in large degree capable of meeting the requirements of younger individuals, and if we bear in mind the studies of the American Medical Association previously referred to, we must reach the inevitable conclusion that since there are no special diseases of the aged and the aging, so there can be really no special problems of the aged and the aging that cannot be met by modifications of answers given to problems existing in younger age groups. In this regard, a plan is now under study suggesting the feasibility of coverage for those individuals who are unable to care for themselves by their own efforts alone through voluntary insurance plans by state participation in and state coverage of them in private insurance organizations. For the preservation of the dignity of these individuals, it is devoutly to be hoped that some plan will also be formulated whereby from each according to his ability some contribution toward his insurance may be obtained.

"The preservation of his dignity"! — "Aye, there's the rub!" There are too many of us who have reached the age of 65 who are compelled by law or custom to cast ourselves upon the funeral pyre of uselessness. One answer that has been suggested to the problem of the preservation of human dignity is such persons as are retired (whether by compulsion or choice) has been to suggest that all individuals should be regarded as in the same category, all should be covered alike by a paternalistic government with its arms enfolding them in a cradled grave of protectiveness, so that those who are rich and require none of it and those who are poor and require it all shall appear alike in the eyes of the people of our country. One can question whether this is a truly American method of preserving dignity; a basic principle of our governmental philosophy has been that each individual shall be given an equal opportunity to fend for himself; it by no means provides for the fact that all men should be equal in their ability. As our nation approaches a welfare state organization, there is a tendency to downgrade all individuals, the competent to the grade of the incompetent and these left at their original level so that all alike shall be assigned to a comparable grade of unproductiveness when they have reached a given number of calendar years. I submit this is not the preservation of human dignity.

A second phase, then, with which the physician in the United States must concern himself insofar as the problems of aging are concerned, is the preservation of human dignity as the human being himself would see it. The Declaration of Independence regards as among the inalienable rights of man the rights to life, liberty and the pursuit of happiness. Life and liberty, to be sure, are statutes not revoked from those who are older than 65; but is the pursuit of happiness a route which is prescribed by law? It is sincerely to be hoped that the Arizona Medical Association will concern itself with this third right of man. It is imperative that ways be found and means devised whereby the older citizens of our state may render themselves useful not only economically to the populace as a whole, but economically and psychologically to themselves as well. It is fitting and proper that the infirm be aided where they are unable to aid themselves; it is merciful and humane that the incompetent be not destroyed as the result of their incompetence; it is equally humane that the competent and the firm, irrespective of age group, should not be sacrificed upon the altar of an inflexible calendar. To this end, we as doctors must concern ourselves with the psychological well being of our patients as well as their physical status. Every move must be made to find gainful occupations in which those of older years can engage with a preservation of dignity and an improvement in economic security for those who require it.

Specific recommendations may be made in these regards: the possibility of hospitalization and medical insurance under the Blue Cross — Blue Shield plans, or any comparable plan, should be broadened insofar as possible to cover the medical needs of all citizens, irrespective of

age. In the instances of those individuals who are county or state charges, the state by right and by necessity should contribute its share, up to 100% if necessary, of the premiums required for the coverage of such individuals. The remuneration by the participating insurance company or companies to the agencies providing the care should most properly be scaled to the minimum. This downscaling of costs could properly include not only the fees offered the attending physician, but the costs of hospitalization, prosthetic devices whether dental or orthopedic, glasses, drugs, and in fact, all of the medical and health requirements of these individuals properly covered by insurance. Such a plan appears both economically feasible and feasible from an acturial viewpoint. A plan of this sort is currently under study within this state and is currently operational in Colorado.

Thus we endeavor to encompass the entire question not only of aging but of medical and economic care for our entire population. Those who can do so and wish to do so should be permitted to care for themselves as has been traditional within our society since its inception. Those who can do so only in part should be aided and assisted by those who are better able to carry the burden; and those who are unable to care for themselves in whatever manner must be assisted totally from the outside. And it must be recalled that from the point of view not only of society at large but of the individuals involved as well, – the aging, – it is not only morally but probably economically as well unsound to regard them as a special group with special problems.

Samuel J. Grauman, M.D.

Report filed with the Professional Committee of the Arizona Medical Association, Inc., at its meeting March 12, 1961.



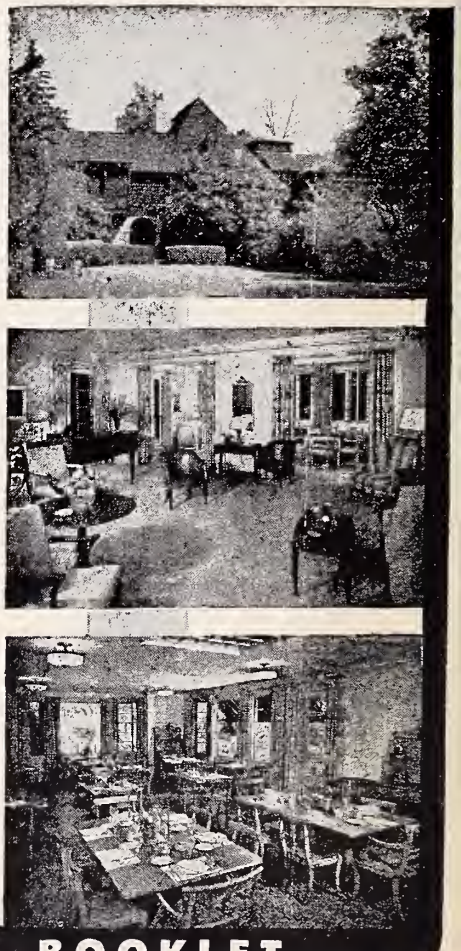
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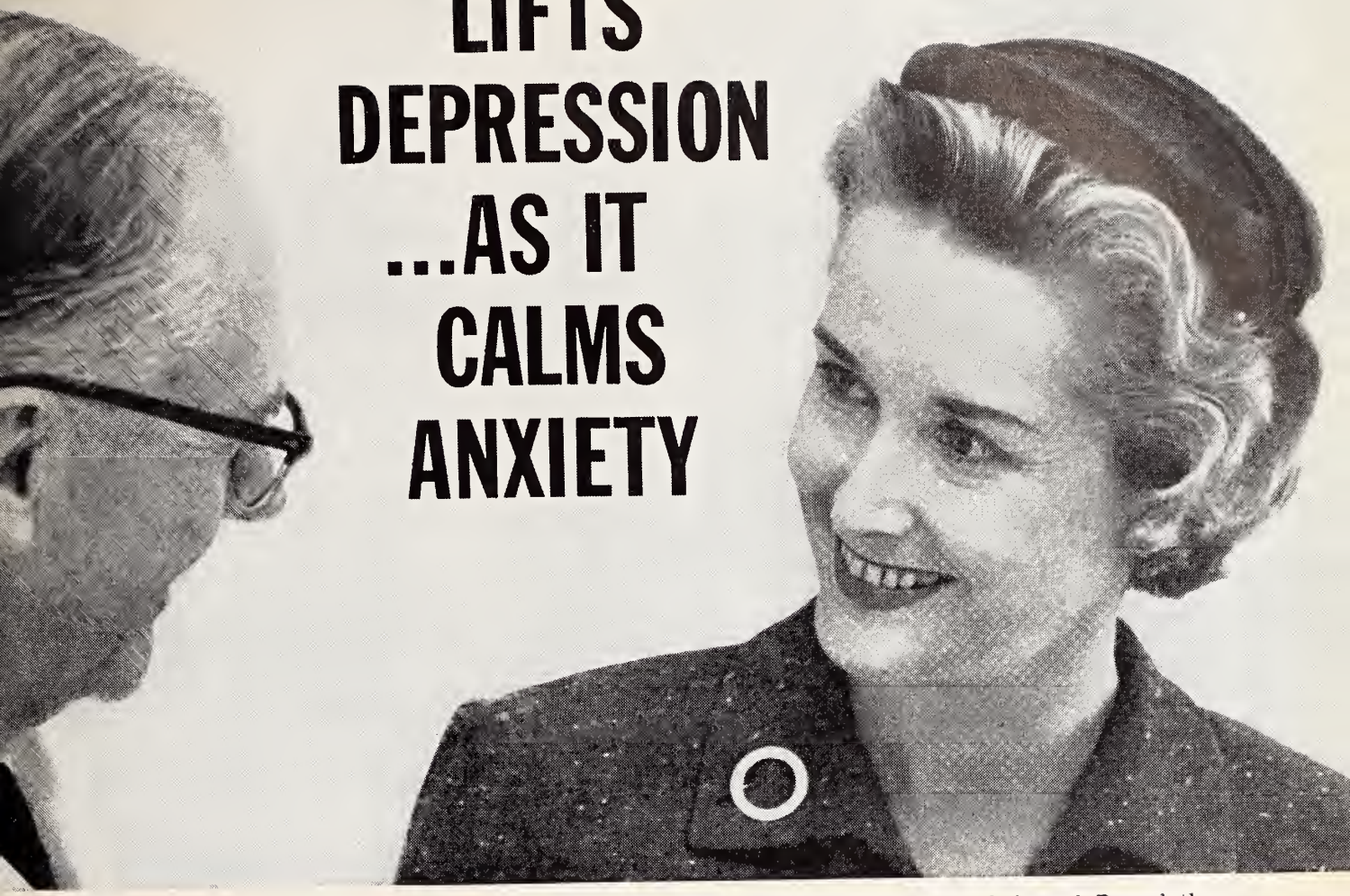
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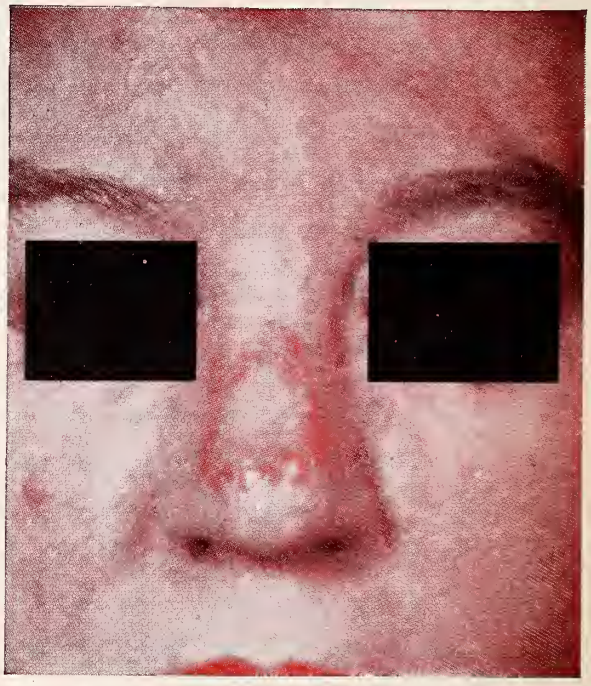
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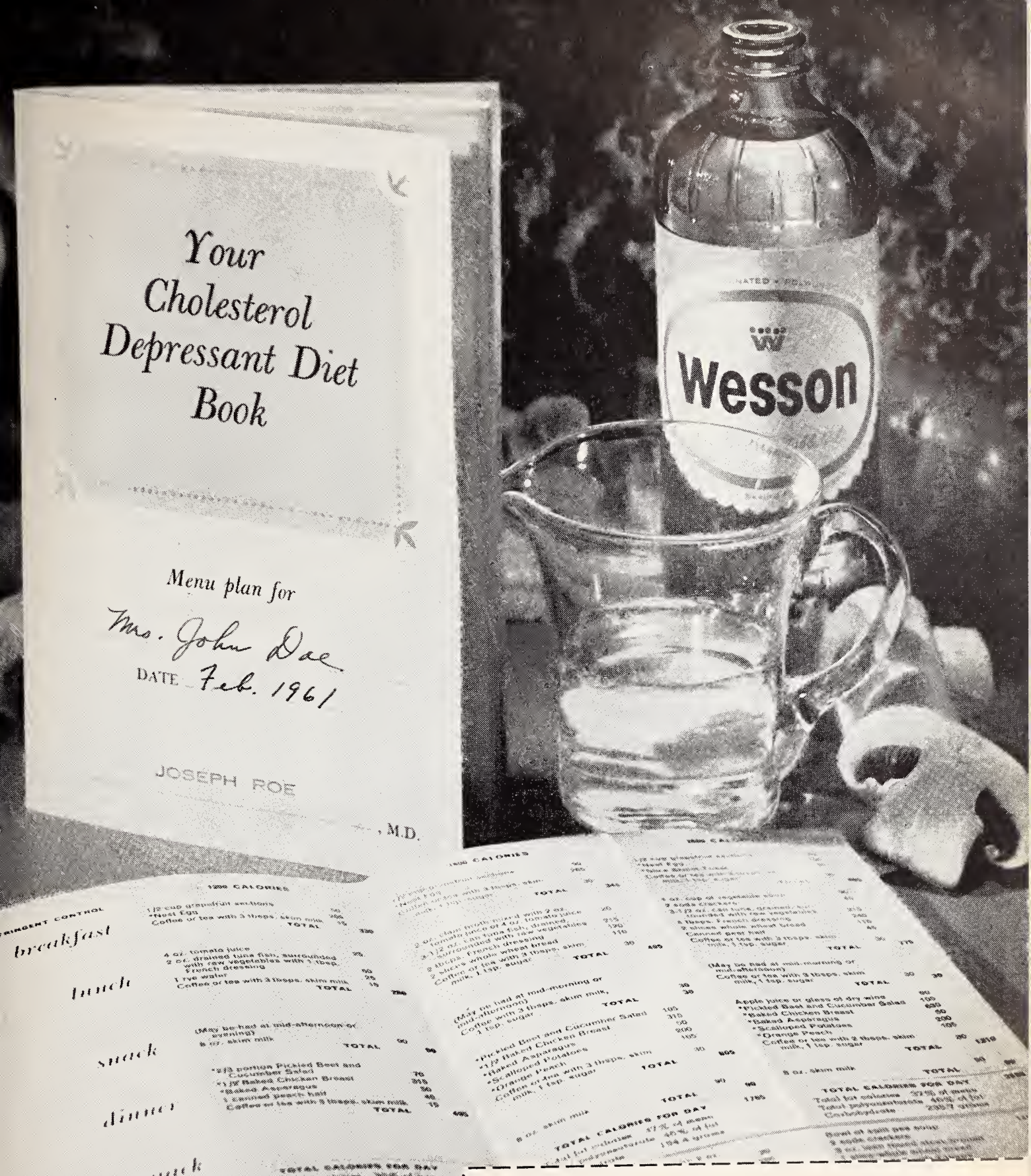
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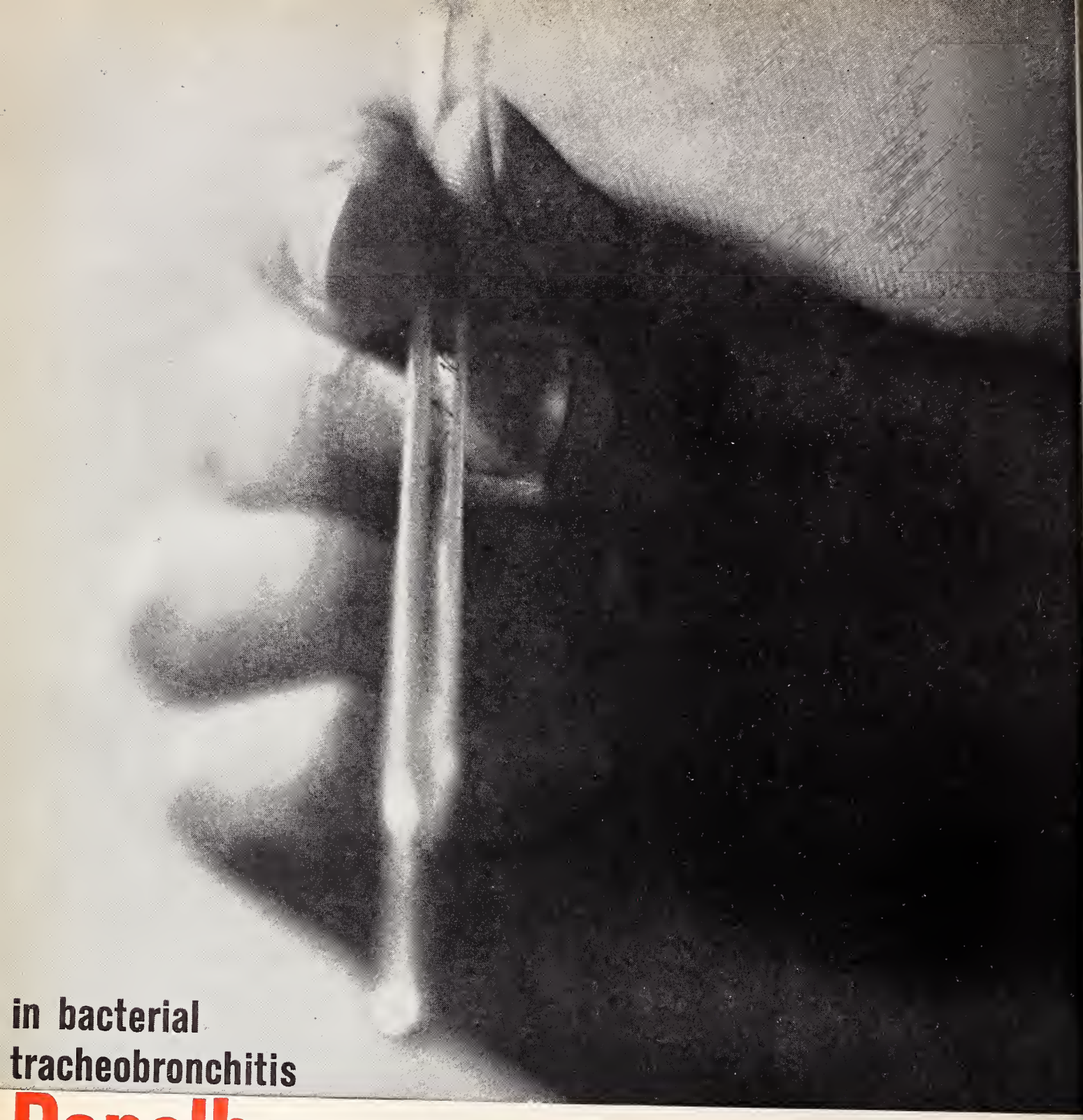
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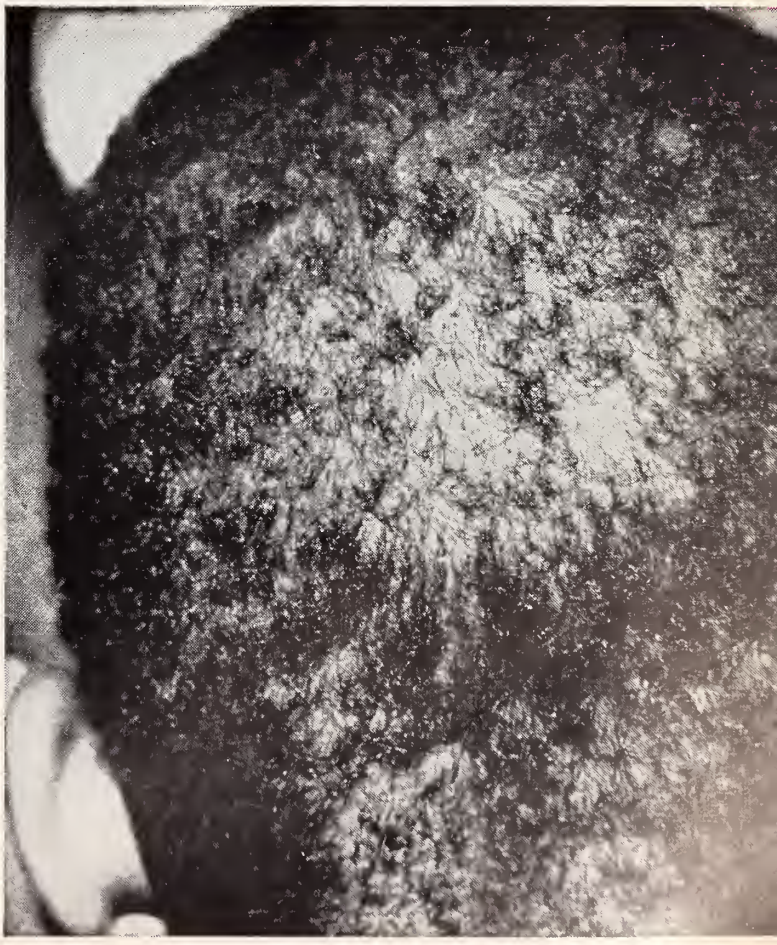
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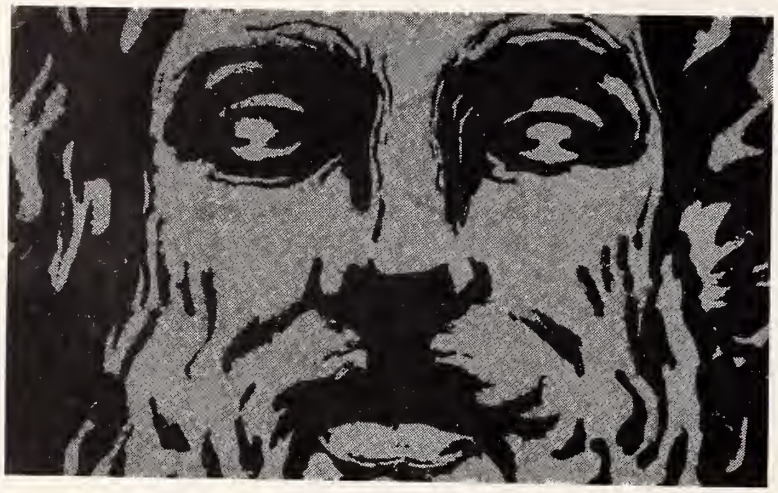
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Vol. 18, No. 7 July, 1961

Recent Trends in Medical Economics
—HISTORY AND PROPHECY

Russell V. Lee, M.D.

This challenging article presents the opinion and counsel of an outstanding thinker in American medicine. The author is properly identified with Alan Gregg's "Great Medicine," yet he has worked for the most part outside the cloister of ivory towers. Dr. Russel V. Lee is founder and director of the Palo Alto Medical Clinic, one of the most successful ventures in group practice in the United States.

THE INTEREST — and it is intense — in medical economics is occasioned by a simple but fundamental fact — medical services are worth having. It has not always been so. In 1910 it was said, probably truly, that the random patient with the random disease making a random contact with a physician stood less than a fifty per cent chance of profiting by the encounter. Not so now. The astounding progress of the science of medicine in thirty years has made it demonstrably evident that freedom from unnecessary suffering and premature death can be purchased if the client has the means and access to medical care of high quality. Health can be purchased. People know this. Labor leaders know this. Politicians know this too, and prepaid medical care is now replacing "bread and circuses" as the bait for votes, with the result that practically every large country has socialized medicine so firmly established that it will never be abandoned.

When the physician was quite aware of the probable inefficacy of his cures, he left the fee up to the largess of his patient. But later, when he had something to sell which was attractive, particularly the dramatic operation made possible by asepsis and anaesthesia, he charged what the traffic would bear. But because, in spite of the life-saving nature of some of his procedures, in the aggregate it really mattered little whether one had a physician's services or not, denial of access to such services was not sociologically a very important thing. But now, when it is well known that one's children survive or perish in proportion to the quality of medical care available, when death in childhood is becoming extremely rare in good hands, it is intolerable to people that such services are denied them because of an economic barrier. A new principle, unthinkable fifty years ago, now prevails. It is that access to medical care of high quality is a human right which must not be denied to anyone. And as a corollary to this concept is the second — that the state must provide it if the individual cannot.

Now this has come about at a time when as a result of a long trend, beginning with the Flexner Report in 1910, the relative number of trained medical personnel in relation to a burgeoning population has dropped. The demand

Presented before the Pima County Medical Society, Tucson, Arizona, October 11, 1960.
Palo Alto Medical Clinic, Palo Alto, California.

has increased, is increasing, and will increase still more, and the supply lags. One must appreciate these basic facts to understand why socialized medicine has come to so many countries, why medical insurance which covered in some measure perhaps 2,000,000 people in 1938 covers 130,000,000 today. And why with increased life expectancy, medical care for the aging becomes such a hot political issue today.

What has been done to meet the situation and what is likely in the years to come are certainly important questions, but not easy ones to answer. The answer to the first question cannot be covered by one word for various things have been done by various people with varying points of view. The doctors were and are not unaware of the situation and in the creation of the "Blues" — Cross and Shield — have contributed greatly to one solution. The commercial insurance companies, loath to enter the field two decades ago, are in it now to a multi-billion dollar extent. The labor unions never accept an agreement without a health and hospital clause and sometimes buy the services, with many furnished by the employers and sometimes, as in the case of the mine workers, they provide their own hospitals and doctors to supply the need. The clients have organized cooperatives which either buy services or, in the case of some like Puget Sound, set up their own services. The government spends a billion dollars a year to provide services for the veterans and now adds dependents of military personnel to the beneficiaries. Many insurance plans are sold on the basis of experience rating to a great extent and thereby exclude many who need the services the most urgently. The closed panels excite hostility on the part of organized medicine and have trouble getting doctors. The cooperatives suffer from lack of administrative skill and experience in a very technical field. The government services suffer from the pressures of the "gimme" boys and the tendency of all governmental agencies to abnormal hypertrophy. To be sure much, very much, of great value has been achieved, but none of the systems is entirely satisfactory.

Out of the welter, certain unmistakable trends can be seen. One of these is the remarkable growth of group practice as an acceptable, and increasingly accepted, way of medical life. Dr. Pomrinse, of the United States Public Health Service, has just completed a survey that shows at least a three-fold increase in the number of groups since the last survey in 1946. The group is perhaps the best presently available answer to the shortage of medical personnel. There are certainly great economies to be achieved under group practice and, because of the ability of the group to use paramedical personnel to such a great degree, the number of patients who can be cared for by each doctor is greatly increased. And, furthermore, the group provides the only possible mechanism for the provision of comprehensive medical services from the physician to the client without the intervention of any third party. To be able to do this saves greatly in money and, by obviating the burdensome mountain of reports, saves the doctor's time and disposition. This system, by direct prepayment between a group of patients and a group of doctors, seems destined to grow and certainly has many advantages for both patient and doctor.

To be sure, only between fifteen and twenty per cent of physicians are in group practice and hence there are great limitations on the possible growth of such systems. However, a situation has developed in the last twenty years that curiously provides a ready-made mechanism for a great extension of this highly desirable development. This is the institution of the modern hospital and the hospital staff. The staff of a modern hospital partakes of many of the characteristics of a proper group. It usually encompasses a wide spectrum of skills which includes all the usual specialties. The members are subject to a certain selection before achieving staff status and a very real discipline over competence and quality of care rendered. The economic problems of converting a hospital staff to a group providing prepaid care is not very difficult of solution. Most well-qualified doctors do belong to some hospital staff and hence freedom for the patient to receive his care from the physician of his choice can be assured.

Here then is a pattern for the future if we are to escape socialized medicine in this country. Let us have direct, comprehensive prepayment between the people, on the one side, and the hospital and the hospital staff on the other. The two services, hospital and physicians services, should be completely separated. Let every person, young and old, good risk and poor, be admitted

to the plan. They all should belong to a hospital association which they — the customers — control in regard to how much hospital benefit they want to pay for. If longer stays in the hospital and more ancillary services, such as drugs, etc., are desired, higher dues must be levied. Let the hospital staff undertake to furnish these people with medical, i.e., physicians' services on a comprehensive, no-exclusions basis for an agreed capitation fee. Let the staff itself decide on the division among the doctors rendering the service. A development and refinement of the well-tried "unit" system would probably be most satisfactory. Outpatient services should be included and the aged should be bracketed in with the young.

This is a plan which could be implemented forthwith wherever there is a hospital with a hospital staff. It will give the patients what they want by comprehensive care on a prepaid basis with freedom of choice within the hospital staff as to which doctor they prefer. It will keep the third party with his big "bite" out of the picture and, hence, more service can be given or lower fees charged. It will keep the control of rates and method of physicians' reimbursement in the hands of the physicians themselves where they belong. It is the most feasible presently available alternative to socialized medicine.

Neoplasms among A-bomb survivors in Hiroshima: first report of the research committee on tumor statistics, Hiroshima City Medical Association, Hiroshima, Japan.

Tomin Harada, M.D., and Morihiro Ishida, M.D. Hiroshima City Medical Association and Atomic Bomb Casualty Commission, National Institute of Health, Hiroshima, Japan. J. Nat. Cancer Inst. 25: 1253-1264, 1960.

Summary

The 1957-58 incidence of neoplasms among the survivors of the Hiroshima A-bomb varies directly with radiation dose, insofar as it may be inferred from distance from the hypocenter at exposure. The incidence of all malignant neoplasms among the survivors who were within 1000 meters is more than four times that of the nonexposed population. The incidence of benign neoplasms among the survivors exposed within 1500 meters is also significantly higher than that among the nonexposed. For survivors under 1500 meters there are significant differences between the number of observed cancers of the lung, stomach, uterus, and ovary and the expected cases calculated from the age-specific rates of the nonexposed portion of the Hiroshima population. The increased incidence among survivors within 1500 meters is not related to sex or age.

— National Cancer Institute, National Institutes of Health, Bethesda, Maryland

Where Can Coccidiodomycosis Be Acquired in Arizona?

Keith T. Maddy, D.V.M., M.P.H.
H. Gilbert Crecelius, Ph.D.
Richard G. Cornell, Ph.D.

A total of over 11,000 home-raised cattle one to six years of age in selected areas over the State of Arizona were given skin tests with coccidioidin. Some 2,859 (24.6%) of these cattle were found to be positive. The annual conversion rates for cattle were found to be almost identical with the actual human infection rates per year in those counties in which this relationship was studied. These skin tests in cattle were found to give a fairly accurate prediction of the incidence and prevalence of human infections in the same areas.

This investigation was supported in part by a research grant (Number E-1392) from the National Institutes of Health, Public Health Service. The study which defined the specificity of the test used in this study was supported by a grant by the Arizona Tuberculosis and Health Association and its affiliates.

Dr. Maddy is a Veterinary Officer of the U. S. Public Health Service and is now in Washington, D. C. in the Laboratory of Medical and Biological Sciences of the Division of Air Pollution. At the time of this study he was with the Communicable Disease Center of the U. S. Public Health Service in Atlanta, Georgia and assigned to the Arizona State Department of Health. Dr. Cornell, at the time of this study, was a Statistician with the Communicable Disease Center and now is Associate Professor of Statistics, Florida State University, Talahassee, Florida. Dr. Crecelius is Director of the Division of Laboratories, Arizona State Department of Health.

This article is based in part on a paper given at a Conference of the Epidemic Intelligence Service, Communicable Disease Center, in Atlanta, Georgia, on April 16, 1959.

INTRODUCTION

WHERE CAN coccidioidomycosis be acquired in Arizona? What is the relative risk of infection with the fungus *Coccidioides immitis* in any given place in Arizona? These are questions which have been asked by physicians, veterinarians, and other workers in medical, public health and related fields since the time that Wooley(1) first discovered 23 years ago that the infection could be acquired within the State.

Geographic distribution of *Coccidioides immitis* in Arizona has been determined previously by noting the areas of the State in which cases of coccidioidomycosis in humans are reported (1-10); by several skin test surveys conducted on various population groups (10-17) (Figures 1 and 2) and by trapping rodents in specific geographic areas and examining them for the presence of *C. immitis.* (18).

Skin test studies on man, however, have all had shortcomings which make pinpointing the infectivity of a small area difficult. In some instances large areas with little population were not surveyed. Many persons who migrate to Arizona from the Midwest have been previously in-

GEOGRAPHIC PATTERN OF COCCIDIOIDIN SENSITIVITY IN WHITE PERSONS 17-21 YEARS OF AGE WHO HAD BEEN LIFETIME ONE-COUNTY RESIDENTS IN ARIZONA

Study by: PALMER, EDWARDS, and ALLFATHER (1957)

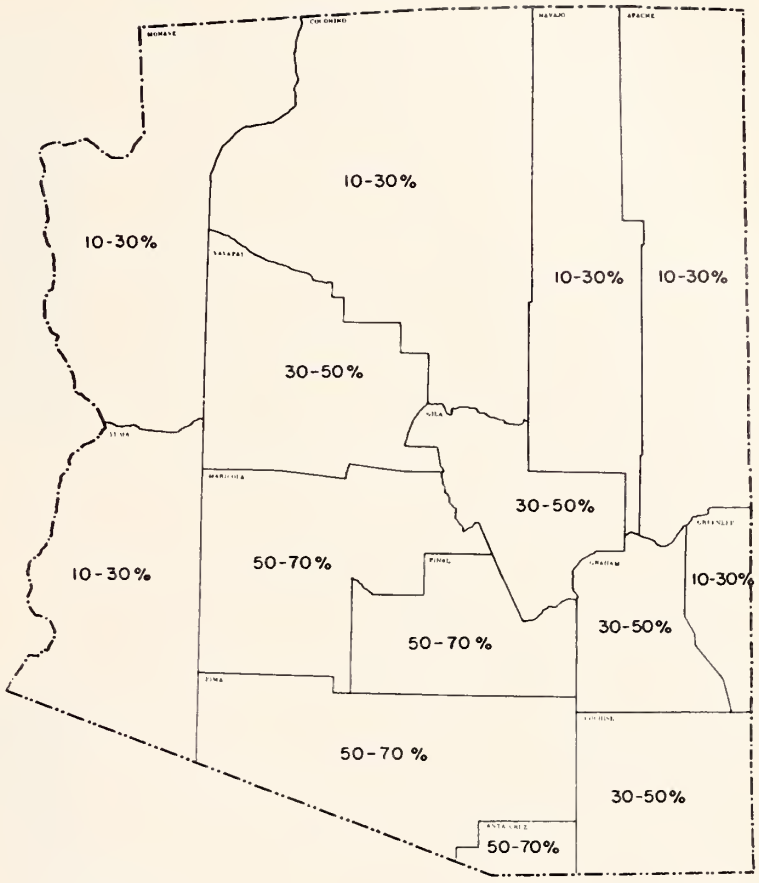


Figure No. 1

Study by: MADDY, DOTO, FURCOLOW, LEHAN, RUBIN, GREENE, CASPER, and COLEMAN (1957)

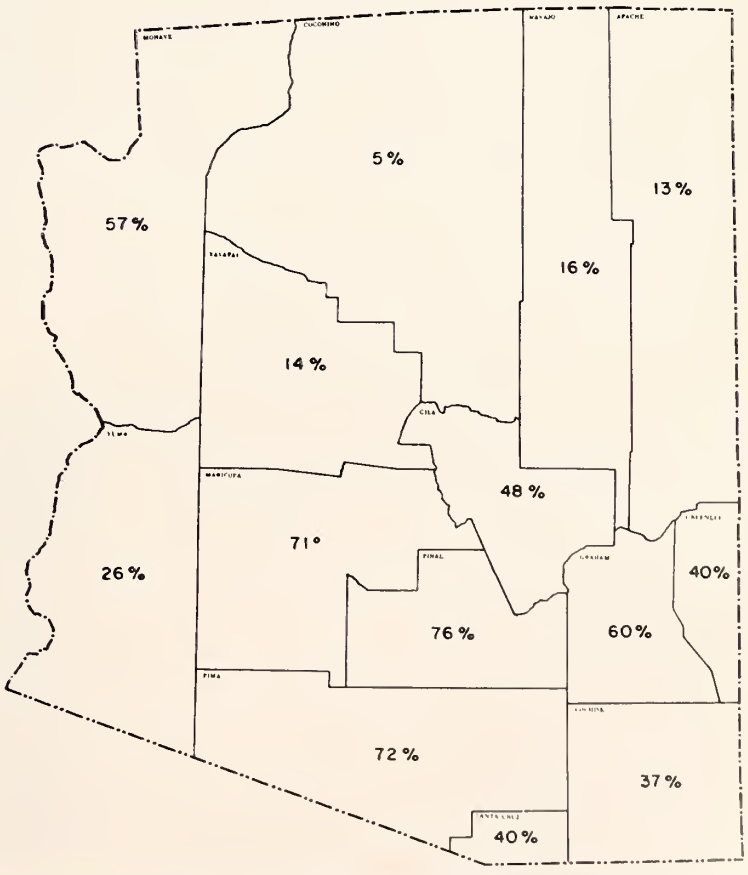


Figure 2. Geogfraphic Pattern of Coccidioidin Sensitivity in 955 High School and College Students who had spent 80% of their Lifetimes in Arizona.

fected with *Histoplasma capsulatum,* a potential cause of a cross reaction to the coccidioidin skin test. Also, persons living in the State travel about a great deal both inside and outside Arizona.

Although only a few studies of coccidioidin skin tests in animals have been reported, (19,20) it has been shown that cattle within the more obviously endemic areas become infected and react to skin tests (Figures 3, 4, and 5). This study was undertaken to determine more definitely the extent of the endemic areas and to map the relative infectivity in various parts of Arizona.

MATERIALS AND METHODS

Between 1954 and 1959, 11,643 cattle were coccidioidin skin tested in the 14 counties of Arizona. The cattle were selected at random in various parts of each county. Few of these animals had been more than several thousand feet from where they were born. Their ages to the nearest year ranged from 1 through 6.

Lot 15087 of coccidioidin was used early in the survey and later Lot 59-62 was used. It was standardized to the same sensitivity as Lot 15087 by simultaneously testing cattle with both skin test agents and then concentrating the 59-62 behind a collodion filter until the skin test agents gave identical results. Both lots were furnished by Dr. C. E. Smith of the University of California at Berkeley.

The specificity of undiluted Lot 59-62 in detecting cattle experimentally infected with *C. Immitis* had been reported(21). Several other preliminary experiments were carried out on naturally infected cattle in the endemic area to arrive at a standard testing procedure. They are summarized briefly here.

Each of 181 cattle was injected intradermally with undiluted and with 1-2, 1-5, 1-10, and 1-100 dilutions of coccidioidin. All animals that reacted positively (indurations of over 5 mm.) to diluted skin test agents also reacted to the same agent when it was used in a more concentrated form. The reverse was often not the case, that is, an animal might react to a concentrated agent but fail to react to a more dilute solution of it. To the undiluted, 135 reacted, 121 reacted to

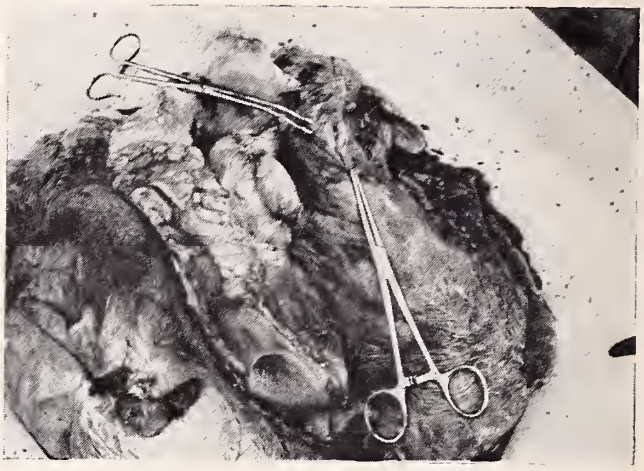


Figure 3. A Cow's Lung with Instruments Holding Open a Coccidioidal Granuloma. Note Pulmonary Lymph Nodes just to the left that are Enlarged and are Cut Open to Show Internal Granulomas.

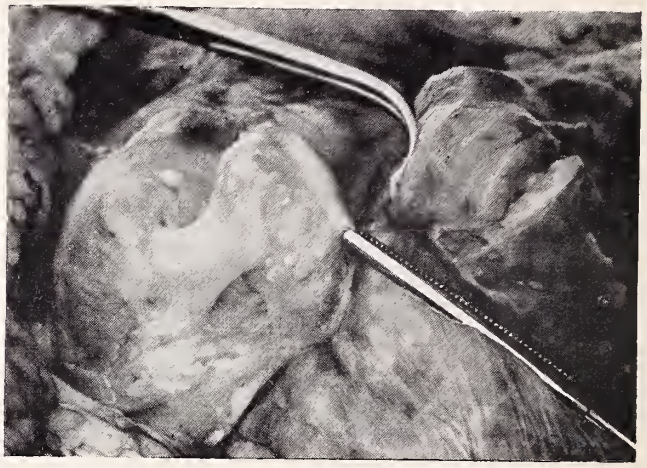
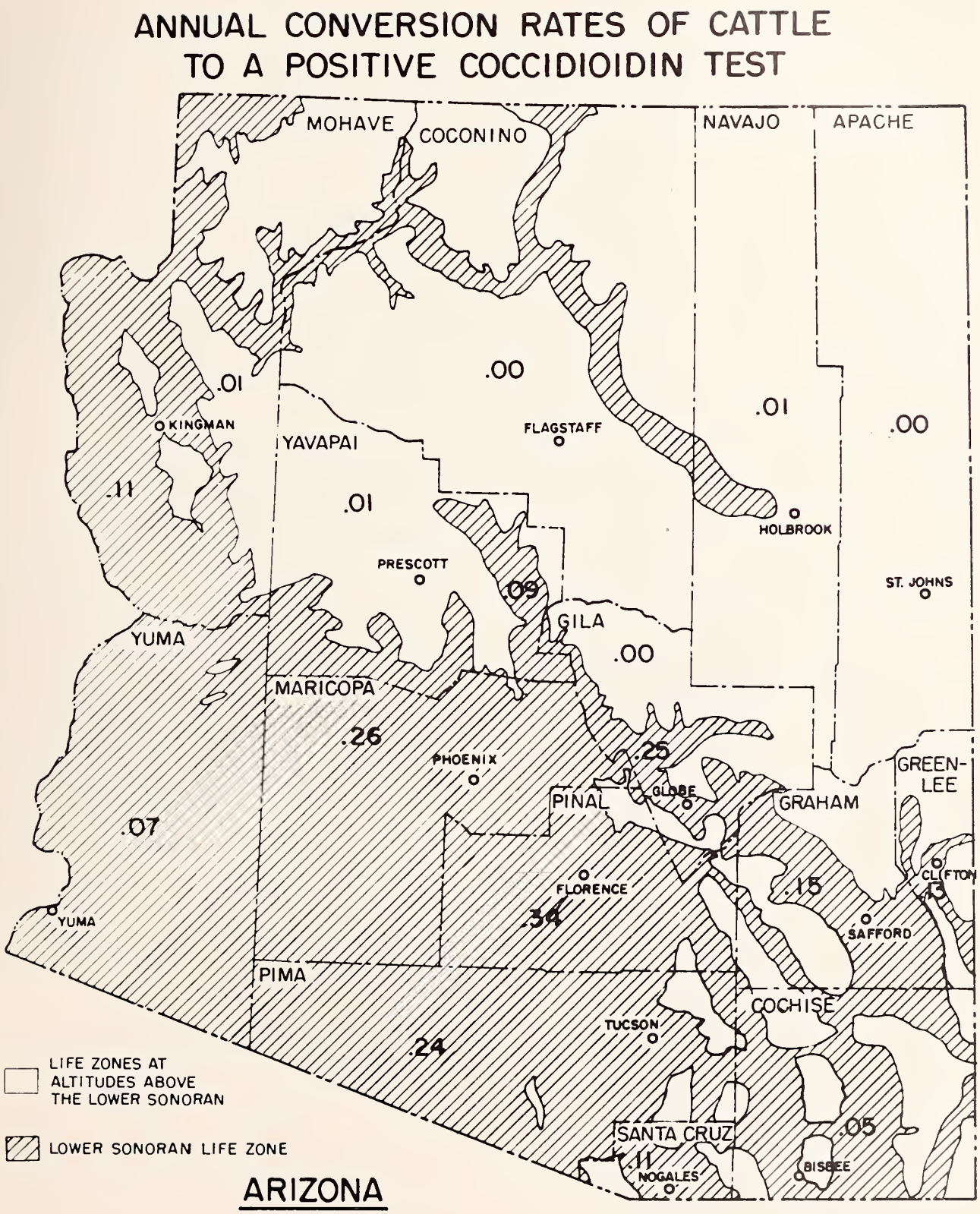


Figure 4. A Close Up of Two Opened Coccidioidal Granulomas in a Bovine Lung. The Bovine in the Endemic Area Becomes Infected Often Without Grossly Palpable Lesions Like These in the Lung, but Almost Always at Least with Grossly Visible Lesions in the Pulmonary Lymph Nodes. Almost all Lesions Heal Completely in a Few Weeks After Infection.



Figure 5. A Positive Coccidioidin Test on a Cow's Neck 96 Hours After Injection.



A TOTAL OF 11,643 CATTLE WERE TESTED ON RANCHES SCATTERED THROUGHOUT EACH COUNTY AND ONLY CATTLE THAT HAD SPENT THEIR ENTIRE LIFETIMES ON THE RANCH WHERE BORN WERE TESTED. FOR MOHAVE, YAVAPAI, AND GILA COUNTIES, TWO FIGURES ARE GIVEN. ONE IS FOR ALL TESTS WITHIN THE LOWER SONORAN LIFE ZONE. THE OTHER FIGURE IS FOR ALL TESTS ABOVE THE LOWER SONORAN LIFE ZONE. ALL THE TESTS IN GREENLEE COUNTY WERE IN THE LOWER SONORAN LIFE ZONE. ALL THE TESTS IN COCONINO COUNTY WERE IN ZONES ABOVE THE LOWER SONORAN LIFE ZONE.

Figure 7. This Map When Converted to Human Use Indicates by Counties or Parts of Counties the Proportion of the Susceptible Human Population Which Would Convert to a Positive Coccidioidin Test Within a Year's Time if the People Stayed Permanently Close to Their Homes.

Table 1. Results of Coccidioidin Tests of Home-Raised Arizona

Age in Years to Nearest Year	Apache		Cochise		Coconino		Gila (Low Altitude)		Gila (High Altitude		Graham		Greenlee		Maricopa	
	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P
1	78	0	15	1	68	0	291	127	131	0	106	11	107	14	367	89
2	320	0	80	16	390	0	238	209	374	1	159	34	217	51	389	179
3	146	0	235	41	21	0	27	14	93	0	91	28	112	21	197	137
4	40	0	115	17	16	0	16	12	61	0	146	65	45	18	213	134
5	68	0	108	25	14	0	13	10	32	0	118	54	43	11	151	113
6	50	0	83	21	7	0	8	5	15	0	92	68	20	14	129	109
TOTALS	702	0	636	121	516	0	593	377	706	1	712	260	544	129	1446	761
Instantaneous Annual Conversion Rates	0		.05		0		.28		0		.17		.13		.30	
Annual Conversion Rates	0		.05		0		.25		0		.15		.13		.26	

the 1-2, 94 to the 1-5, 78 to the 1-10, and 37 to the 1-100.

Undiluted coccidioidin was injected in the cervical area of 861 cattle. These skin tests were checked at the following intervals with the following numbers of positives (indurations of over 5 mm.): 24 hours — 310; 48 hours — 380; 72 hours — 455; 96 hours — 505; 120 hours — 435; and 144 hours — 263. Of these cattle, 243 were injected simultaneously in the caudal fold area. The cervical area test resulted in 146 positives at 96 hours and 87 of these same animals had reactions in the caudal fold area. None of the 59 cervical-area negative cattle gave independently positive reactions in the caudal fold area. There were fewer positives both before and after the 96-hour reading.

Simultaneously 264 cattle were injected intradermally in the cervical area with 0.1 ml. doses of undiluted coccidioidin and a control broth handled the same way coccidiodin is in its preparation. The control broth gave negative results in all animals and the coccidioidin gave indurations of over 5 mm. in 131 animals at 96 hours.

From these preliminary studies it was concluded that the coccidioidin should be injected undiluted intradermally in the cervical area and that indurations of more than 5 mm. in diameter at 96 hours would be considered positive.

The skin test agents were injected in many cattle at the same time their blood was being collected for brucellosis serology. In each county some of the same cattle were also tested with other skin test agents — 841 with histoplasmin and 763 with haplomycin.

Table 2. Results of Coccidioidin Tests of Home-Raised Arizona Cattle Classified

Age in Years to Nearest Year	Altitudes											
	0 - 500 ft.		500 - 1000 ft.		1000 - 1500 ft.		1500 - 2000 ft.		2000 - 2500 ft.		2500 - 3000 ft.	
	T	P	T	P	T	P	T	P	T	P	P	T
1	163	11	79	0	420	126	129	60	534	198	104	9
2	149	21	321	35	389	211	119	87	335	278	142	33
3	192	31	177	38	202	161	70	56	114	84	88	28
4	36	9	83	20	191	138	30	24	107	76	133	59
5	30	12	72	30	135	110	31	22	102	78	114	52
6	7	2	38	24	110	105	35	22	24	14	87	65
TOTALS	577	86	770	147	1447	851	414	271	1216	728	668	246
Instantaneous Annual Conversion Rates	.07		.12		.29		.42		.28		.17	
Annual Conversion Rates	.07		.11		.25		.34		.24		.15	

attle by Counties — (T = Number Tested, P = Number Positive)

Mohave (Low Altitude)		Mohave (High Altitude)		Navajo		Pima		Pinal		Santa Cruz		Yavapai (Low Altitude)		Yavapai (High Altitude)		Yuma		Totals	
T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P
209	10	53	0	304	2	243	71	182	97	211	24	251	18	253	1	163	11	3032	476
354	32	142	1	203	5	97	69	147	130	231	42	110	13	186	2	149	21	3786	805
209	36	71	2	61	1	87	70	106	91	123	27	139	16	131	1	192	31	2041	516
51	8	25	0	52	1	91	64	53	44	46	15	30	4	12	0	36	9	1048	391
53	11	78	1	61	0	89	68	48	41	7	4	23	6	18	0	30	12	954	356
32	23	161	3	41	1	16	9	43	35	11	5	32	19	35	1	7	2	782	315
908	120	530	7	722	10	623	351	579	438	629	117	585	76	635	5	577	86	11643	2859
.11		.003		.003		.27		.41		.12		.09		.003		.07		.10	
.11		.01		.01		.24		.34		.11		.09		.01		.07		.09	

Histoplasmin Lot D-2770 was used in testing 841 of the coccidioidin tested animals. Haplomycin Lot "Phillips 4, antigen 16" was used in testing 763 of the coccidioidin tested animals. These two skin test agents were supplied by Dr. M. L. Furcolow and Dr. R. W. Menges of the Communicable Disease Center. These skin test agents were injected and read by the same method used for coccidioidin.

RESULTS

The results of the coccidioidin tests are summarized in Tables 1 and 2 and in Figures 7 and 8. The conversion rates to a positive reaction for each geographic area were computed by a method outlined by Manos(22). From various areas of each county of Arizona 11,643 home-raised cattle 1-6 years of age were coccidiodin tested and 2,859 (24.6%) were found to be positive.

High annual conversion rates (.24 and above) were found in cattle in the three counties (Pinal, Maricopa, Pima) known to have high human conversion rates. The cattle in the low altitude areas of Gila County were also found to have high annual conversion rates, particularly the areas around the artificial lakes on the Salt River.

Medium annual conversion rates (.11-.15) were found in cattle in the low altitude areas of Mohave County as well as in Graham, Greenlee and Santa Cruz counties.

Low annual conversion rates (.05-09) were found in cattle in the counties of Cochise and Yuma, and the low altitude areas of Yavapai County.

Navajo County and high altitude areas of Yavapai and Mohave Counties had a few coccidioi-

ccording to Their Home Altitudes — (T = Number Tested, P = Number Positive)

Altitudes															
3000 - 3500 ft.		3500 - 4000 ft.		4000 - 4500 ft.		4500 - 5000 ft.		5000 - 5500 ft.		5500 - 6000 ft.		Above 6000		Totals	
T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P
381	28	318	38	55	3	268	1	142	2	162	0	277	0	3032	476
171	21	448	93	125	18	300	2	99	5	103	0	1085	1	3786	805
202	25	235	48	238	41	202	3	29	1	31	0	261	0	2041	516
43	8	91	33	128	23	37	0	21	1	28	0	120	0	1048	391
37	9	50	15	112	27	96	1	19	0	37	0	119	0	954	356
53	35	31	19	88	24	196	4	27	1	12	0	74	0	782	315
887	126	1173	246	746	136	1099	11	337	10	373	0	1936	1	11643	2859
.10		.12		.06		.003		.01		.00		.00		.10	
.10		.11		.05		.01		.01		.00		.00		.09	

din reactors resulting in an annual conversion rate of .01 for each of the three counties.

No coccidiodin-positive cattle were found in the high altitude areas of Gila County nor in Coconino or Apache Counties.

The areas of the State in the altitude range of 1000 to 2500 feet had high annual conversion rates (.24 and above). The rates were lower at less than 1000 feet altitude and became progressively lower with increases in altitudes above 2500 feet so that at 4500 feet the rate became negligible (.01) and at 5500 feet and above it was .00.

Although a few identified herds of cattle at altitudes above 4500 feet had been fed sizable quantities of feed raised in the parts of the State where cattle had high annual conversion rates, only a few animals in these herds were coccidioidin reactors.

Of the 841 cattle tested with histoplasmin, 11 gave positive reactions, but all were also coccidioidin positive. There were 18 cattle positive to haplomycin of 763 tested; these same 18 were also coccidioidin positive. The histoplasmin and haplomycin positive reactions were found in cattle in areas of high endemicity for coccidioidomycosis.

DISCUSSION

The skin test surveys on humans in Arizona that are summarized in Figures 1 and 2 indicate that the number of infections is greater in south central Arizona than in the northeast part of the State. Figures 7 and 8 on the cattle test data indicate much sharper differences of infectivity of the various areas of the State. The similarity of the endemic area for coccidioidomycosis with the Lower Sonoran Life Zone (a climate zone) has already been discussed(23-25). Figure 9-13).

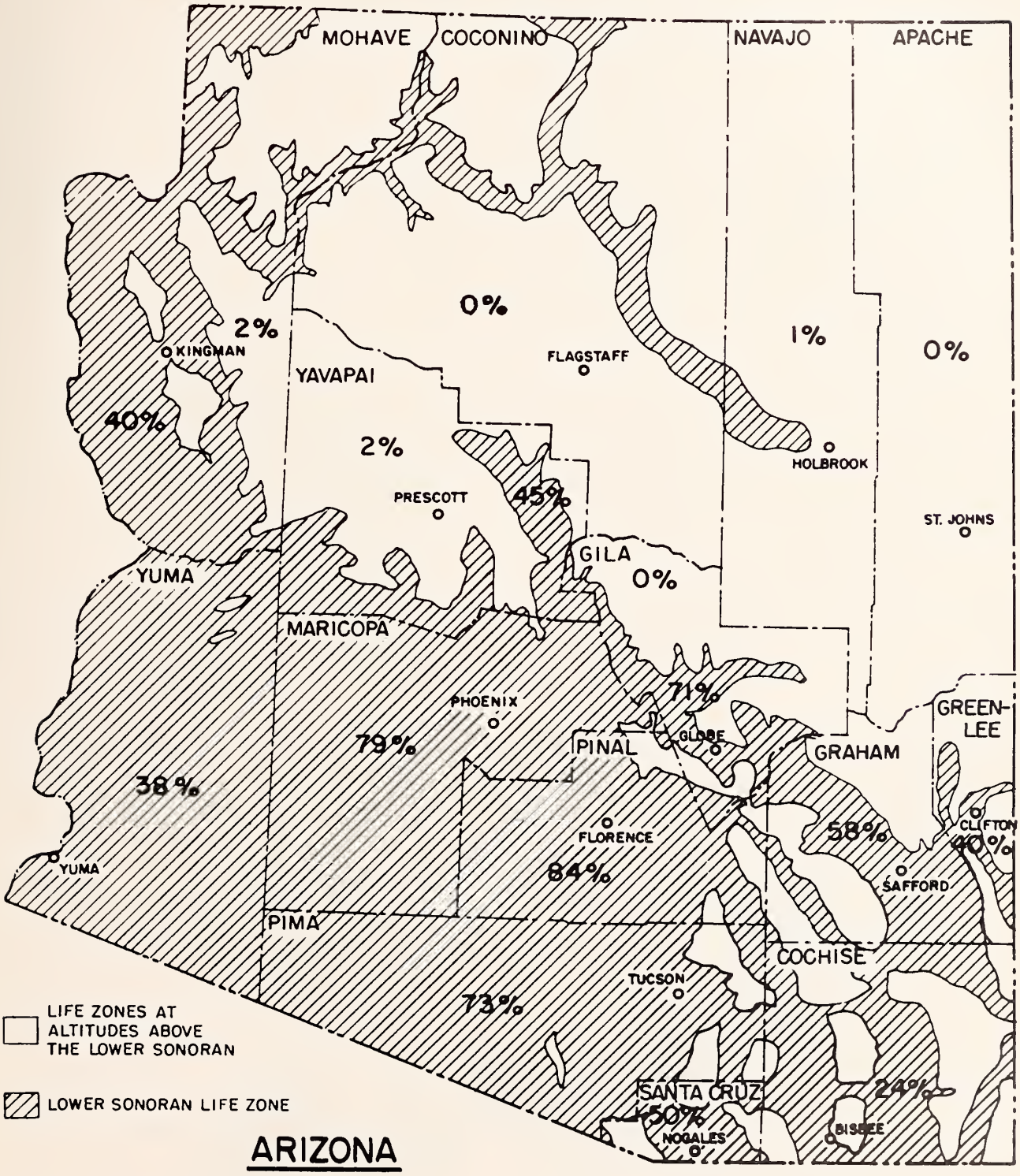
The Lower Sonoran Life Zone of the Northern Hemisphere has high January and July temperatures and rainfall ranging up to 20 inches per year. The evaluation of three items of climate in combination, the average January temperature, the average July temperature, and the average annual rainfall, yields a good basis for estimating the prevalence of coccidioidomycosis. The July mean temperature (not maximum) of areas of high infectivity is above 80° F. Some infection occurs in areas with July mean temperatures as low as 77° F. but not often below this. The January mean temperature is above 45° F. in areas of high infectivity. Some infections occur where the January mean temperature is as low as 35° F. but not often below this. The annual rainfall is about 5 to 20 inches in the more obviously endemic areas. As rainfall becomes progressively less than 5 inches, infectivity of the area drops. Infections do not occur in areas with more than 20 inches unless there are particularly high temperatures to reduce precipitation effectiveness.

The Lower Sonoran Life Zone in Arizona reaches its coldest limits at just above 5000 feet altitude in most parts of the State. However, the upper limits of the zone are affected somewhat by the latitude and the general slope of the land. Table 2 reveals the gradual drop in conversion rates as the altitude increases above 2000 feet. The areas of the State that are below 1000 feet have high January and July temperatures, but also have low rainfall, usually averaging less than 5 inches per year. These areas appear to be too dry for good propagation of this fungus.

On Figures 7 and 8 the land below 5000 feet altitude along the Little Colorado River between Cameron and Joseph City is indicated as Lower Sonoran. This was classified at one time as Lower Sonoran (26) but later was dropped (27). (Figure 10). Since the only positive animals found in Navajo County were 10 animals at Joseph City (fed locally-raised feed), we thought it best to indicate the difference of opinion on the extent of the zone in this area. No tests were made on cattle in the Grand or Little Colorado Canyons; consequently, there were no positives found to affect Coconino County data.

Comparison of the data for cattle with that for human beings reveals that cattle become infected at about twice the rate for humans living in the same area. A previous Arizona study on man revealed the tendency for the prevalence of positive skin test reactions to level off after 12 years of exposure(17). In cattle it was found that after 6 years of exposure there was also a marked leveling off. Because of this, all animals beyond six years of age were eliminated from

PREVALENCE OF COCCIDIOIDIN SENSITIVITY BY COUNTIES IN CATTLE 5 AND 6 YEARS OF AGE



A TOTAL OF 1,736 CATTLE WERE TESTED ON RANCHES SCATTERED THROUGHOUT EACH COUNTY AND ONLY CATTLE THAT HAD SPENT THEIR ENTIRE LIFETIMES ON THE RANCH WHERE BORN WERE TESTED. FOR MOHAVE, YAVAPAI, AND GILA COUNTIES, TWO FIGURES ARE GIVEN. ONE IS FOR ALL TESTS WITHIN THE LOWER SONORAN LIFE ZONE. THE OTHER FIGURE IS FOR ALL TESTS ABOVE THE LOWER SONORAN LIFE ZONE. ALL THE TESTS IN GREENLEE COUNTY WERE IN THE LOWER SONORAN LIFE ZONE. ALL THE TESTS IN COCONINO COUNTY WERE IN ZONES ABOVE THE LOWER SONORAN LIFE ZONE.

Figure 8. This Map When Converted to Human Use Indicates By Counties or Parts of Counties the Percentage of a Human Population Which Would be Coccidioidin Positive After Staying Near Their First Place of Arizona Residence for 12 or More Years. It is Obvious That for Both Cattle and Persons that a Certain Proportion Revert from a Positive back to a Negative Coccidioidin Reaction After Several Years.



Figure 9. Endemic Coccidioidomycosis Areas in the United States as Designated by Smith (9) in 1951. (Reproduction permission granted by California Medicine.)

this study. This leveling off is no doubt related to the reversions of positives to negatives. The annual conversion rates from negative to positive in previous study(17) on humans as calculated by the Manos method was a little less than half that shown for the cattle in this study using the same method of calculation.

The annual rate of conversions to positives among cattle (as calculated by the Manos method) (Figure 8 or Table 1) is almost identical to that found in skin tests of persons in Maricopa, Pima and Pinal Counties(10,12,13) during the first year of exposure. Therefore the rates given on Figure 8 for cattle are quite indicative of the actual percent of a susceptible human population that becomes infected per year for each county.

Comparison of human and cattle data also indicates that the prevalence of coccidioidin sensitivity of cattle 5 and 6 years of age (Figure 7) is about the same as that found when persons with 12 years or more of exposure in the endemic area are tested.



Figure 10. Lower Sonoran Life Zone in the United States.

This study revealed for the first time that the low altitude areas of Yavapai, and Mohave counties and additional areas of Gila county are endemic for coccidioidomycosis. The absence of test results positive only to histoplasmin and haplomycin indicated that all reactions to these two test agents were cross reactions caused by *C. immitis* infections in cattle. Thus it is believed that the cattle tested in this study were not infected with *H. capsulatum* or *Haplosporangium parvum*.



Figure 11. Life Zones of the Colorado River Basin. (Reproduction permission granted by U. S. Department of Interior.)

In this study fomites such as feeds raised in endemic areas did not appear to be good vehicles for transmission of *C. immitis* to cattle fed these feeds in non-endemic areas.

We believe this study has served as an example of how an animal with a limited home range, that also acquires an infection common to man,

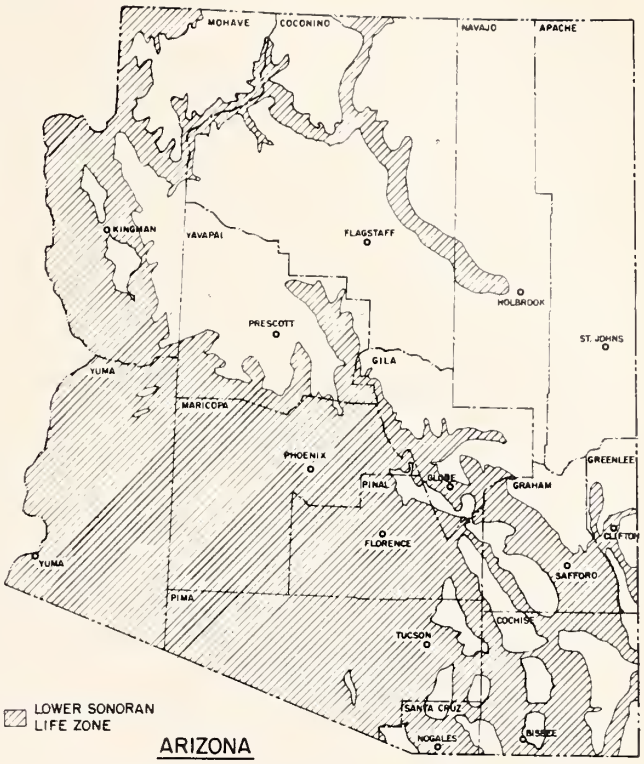


Figure 12. Lower Sonoran Life Zone of Arizona.

can be used to delineate the geographic distribution of the infective agent.

SUMMARY

From various areas of each county of Arizona, 11,643 home-raised cattle 1-6 years of age were coccidioidin tested and 2,859 (24.6%) were found to be positive. Whereas previous human skin test surveys have given only indefinite indications of the extent of the endemic areas, this study revealed rather definite boundaries and the relative infectivity of various parts of the endemic area of the State. The endemic areas were found to be practically coterminous with



Figure 13. The Creosote Bush. This is the Best Indicator Plant of the Lower Sonoran Life Zone in Arizona.

the Lower Sonoran Life Zone.

Some low altitude areas of Gila, Yavapai and Mohave counties were established as endemic areas for the first time and several areas of the State of above 5500 feet altitude previously in a suspect classification were found to be non-infective to cattle.

The annual conversion rates (Manos method) for cattle were found to be almost identical with the actual human infection rates per year in those counties where this relationship was studied. The annual conversion rates of home-raised cattle to a positive coccidioidin test and the prevalence rates of coccidioidin sensitivity by counties in cattle 5 and 6 years of age were found to be fairly accurate predictors of human incidence and prevalence.

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MATERNITY HOSPITAL CARE

The average maternity patient today makes about 10 prenatal visits to her physician, stays about 4.5 days in a hospital at delivery, and spends $272 for all hospital, medical, and similar services used during her pregnancy.

— Health Information Foundation

Emivan, A Coccidioidal Fungicide

Robert Cohen, M.D.

An interesting in vitro study on the fungicidal properties of vanillic diethylamide. This compound may prove of considerable interest and benefit to the problem of disseminated coccidioidomycosis. Further developments should be looked for and clinical research encouraged on this drug.

EMIVAN, vanillic diethylamide, has been reported as a respiratory stimulant. The vanillic radical and the amide radical were obvious in two drugs previously used in coccidioidal infections such as ethyl vanillate and stilbamidine which I had reported(1). On the assumption that this new drug might have some fungicidal properties due to the two mentioned radicals, I decided to try it in vitro studies. Because Emivan can be given both orally and intravenously in doses of 10 mgm per kilogram body weight and its toxicity has already been worked out by other investigators(2), it would make an ideal drug to test for this fungicidal property.

Starting with 2000 micrograms per milliliter, decreasing concentrations of Emivan were placed in Sabouraud's media. They were plated with loopsful of pus from a coccidioidal abscess. The controls were set up without the drug. The petri dishes were set at room temperature and read after the fifth day and every day thereafter for three weeks. The experiment was repeated many times. The controls grew as expected. The fungicidal power was repeatedly shown by complete inhibition of colony growth at 400 micrograms per milliliter. The photograph herein shows this characteristic.

CONCLUSION

Emivan shows definite fungicidal properties for coccidioides immits and completely inhibits its growth at 400 micrograms per milliter.

From the Department of Pediatrics, Kern General Hospital, Bakersfield, California.

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Ureteral Obstruction

Clarence V. Hodges, M.D.

A succinct and comprehensive outline of the causes and most exepditious treatment of the more common types of obstruction of the ureter — describing opaque and non-opaque calculi, tumors, strictures, traumatic severance, and extrinsic pressure. Several excellent illustrations of the roentgenographic findings to illustrate the conditions listed accompany the article.

IT IS A privilege to address this group today and a pleasure to discuss this important urological problem. I should like to limit the topic of urinary obstruction to a specific locale, namely the ureter. In the time available, it will not be possible to discuss all causes of ureteral obstruction but I should like to dwell on four: I. Obstruction from stone; II. Obstruction from intrinsic tumors; III. Obstruction from strictures; and IV. Obstruction secondary to extrinsic pressure. I should like to enlarge upon some of our experiences in diagnosis, particularly with reference to techniques which increase our diagnostic accuracy or which allow us to reach a diagnosis sooner. In the third category, that of obstruction from strictures, I should like to suggest two novel methods of surgical treatment, departures from the classic techniques, which appeal to me by reason of their timeliness and basic logic.

I. OBSTRUCTION FROM STONES

The ordinary ureteral stone presents no serious problems. The symptoms are straightforward. Pain in the costovertebral angle, with radiation around and down in classic fashion, is colicy and periodic in nature and accompanied by gross hematuria. The x-ray in 80 to 90% of patients will show a calcific density lying within the suspected region of the ureter and the diagnosis is evident. Unusual problems are presented by non-opaque stones, stones which overlie skeletal areas and the differentiation of stone from tumor.

Column of contrast material: Often when we have been unable to visualize a calcific density in the path of the ureter, our attention is called in the excretory pyelogram to a column of contrast material which extends from the kidney down a slightly dilated ureter (fig. 1). Successive films continue to show this column of contrast material, always ending at the same spot or with a definite decrease in ureteral caliber below this point. If the story is otherwise typical of ureteral calculus, we have strong reason to believe we are visualizing the site of the obstruction and have indirect evidence that there is indeed a calculus present. We must bear in mind, of course, that any obstruction will give the same sort of ureterogram and must depend upon other means to differentiate these various causes.

Use of oblique films: We are sometimes concerned with identification of a calcific density and would like to know whether it lies within or outside the ureteral lumen. Conventional anterior-posterior x-ray projections will frequently raise the problem by showing a calcific density resembling a ureteral stone and projecting it over the path of the ureter. The use of either the right or left posterior oblique projection or both will settle the question by showing whether the density stays with the ureter or tends to be thrown clearly away from its path (fig. 2,3). At our institution, right and left posterior oblique films are a routine sequence at the 15-minute

Address given at the Veterans Administration Hospital, Tucson, Arizona, February 3, 1960.

Professor of Surgery and Head, Division of Urology, University of Oregon Medical School, Portland, Oregon.

interval following injection of contrast material.

Use of delayed x-rays: Occasionally an intravenous urogram will show lack of visualization of the kidney and ureter on the suspected side in the conventional series of x-rays. The alert physician will request his roentgenologist to take 2, 4, and 8 hour delayed films. Frequently, such delayed films will clearly show concentration of contrast material in the pelvis and in the ureter down to the site of obstruction. (fig. 4,5) Cone-down films over this area or retrograde studies may then indicate the nature of the obstruction.



Figure 1: Column of contrast material extends from the kidney down to point of obstruction (calculus) in lower right ureter.



Figure 2: A-P x-ray shows calculus apparently lying in path of left ureter with left ureteral catheter impinging on its infero-medial surface.

II. OBSTRUCTION FROM URETERAL TUMORS

Primary ureteral tumors are rare; they occur just frequently enough to cause confusion in diagnosis. The onset is insidious and marked only by gross or microscopic hematuria. Frequently they may be hard to demonstrate even though the examiner is alert to the possibility of their presence. In the accompanying illustrative case (fig. 6) hematuria occurred for one year before repeated attempts at ureterograms, knowing which side was involved, demonstrated a small primary ureteral tumor. Our suspicions were heightened in this case by the presence of



Figure 3: Right posterior oblique projection throws shadow of supposed calculus far to the right, thus ruling it out as a ureteral calculus.

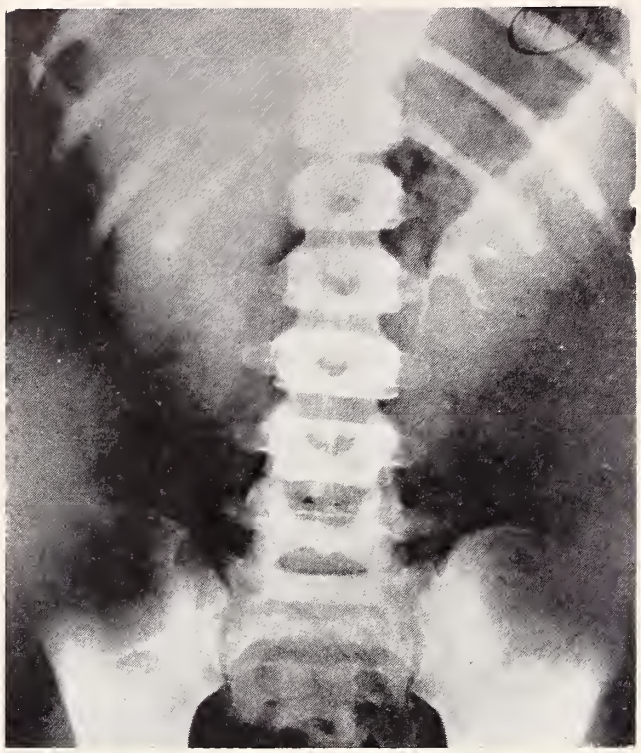


Figure 4: 15-minute film on excretory urography shows normal pattern on left; nephrogram but no clear pelvio-calyceal system on right.



Figure 6: Primary carcinoma of left ureter. Surgical specimen superimposed on x-ray. Note smooth rounded defect in ureterogram at tip of ureteral catheter.

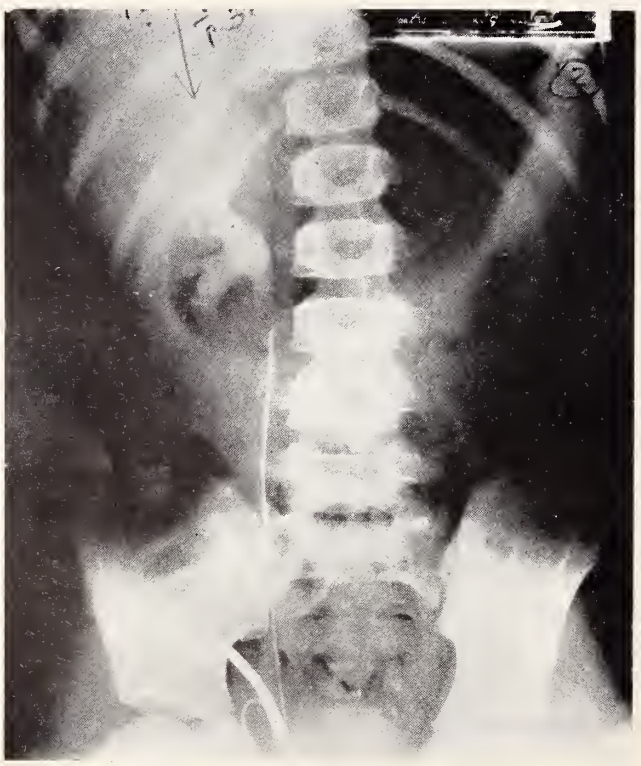


Figure 5: X-ray made three hours after injection of contract material for excretory urogram and before any retrograde injection of contrast material. Right pelvio-calyceal outline is clearly seen and column of contrast material extends to point of obstruction just below uretero-pelvic junction.



Figure 7: Retrograde ureterogram shows extravasation of contrast material at site of ureteral injury.

a papillary tumor in the bladder five years previously. Roentgenographic visualization of the entire ureter is necessary to rule out a ureteral tumor. Filling defects in the ureterogram are caused by tumor, stone, cyst or air bubbles introduced at ureterography. If a filling defect is consistently present, differentiation narrows down to tumor or stone. The final diagnosis may be made only when the ureter is exposed at surgery.

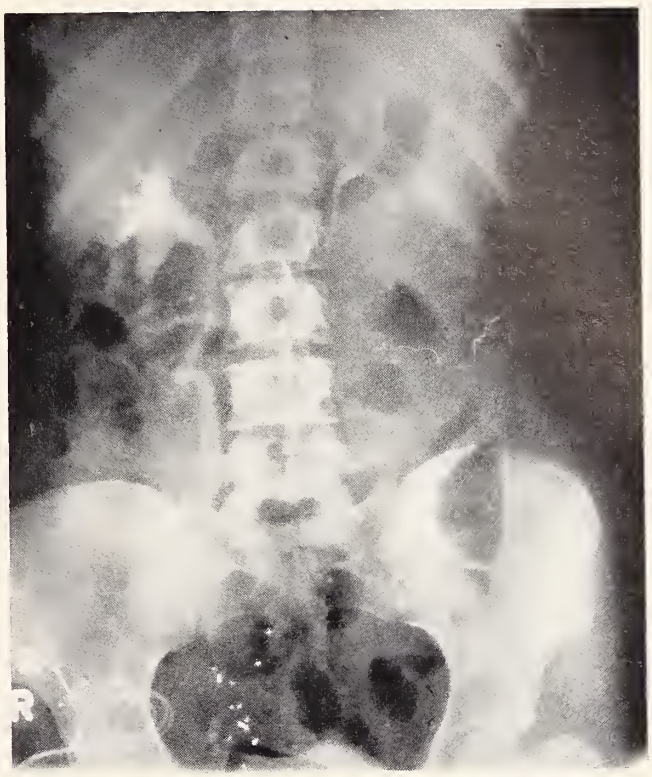


Figure 8: Excretory urogram (explanation in text).

III. OBSTRUCTION FROM URETERAL STRICTURE

Ureteral stricture results most often from injury to the ureter by surgical violation of its integrity during the course of abdominal or pelvic surgery. Ideally, such injuries are recognized as soon as they occur and a definitive repair carried out. Often, however, it is not until symptoms occur in the postoperative period that the occurrence of a ureteral injury is suspected. The symptoms are often non-specific, malaise and poorly localized discomfort, until the appearance of an abdominal or vaginal urinary fistula. Once ureteral injury is suspected, the diagnosis is readily made by retrograde ureterography (fig. 7).

Ureteral repair may be carried out in a number of ways. (table 1) Deligation is the procedure of choice if the integrity of the ureter has not been compromised. Discovery of ureteral occlusion in the immediate post-operative period indicates the necessity for re-opening the abdomen as soon as possible, and repairing the ureter. However, if the injury is not discovered until there is considerable inflammatory reaction around the site of injury or if an abscess has formed, it will be wiser to divert the urine by nephrostomy and postpone definitive repair until after the inflammatory reaction has subsided.

End-to-end direct anastomosis of the spatulated proximal and distal segments of the ureter will be employed if the injury is discovered at the time of initial surgery or in the early postoperative period. In the majority of cases, this will result in a good repair with no stricturing of clinical consequence. An occasional case in which injury is discovered after stricture, with or without urinary fistula, has occurred, impels us to consider other methods for restoring a normal ureteral lumen.



Figure 9: Lateral x-ray after retrograde injection of sinus tract.

Ureteroneocystostomy involves reimplantation

of the ureter into the bladder. As an illustrative case, a 19-year-old girl sustained a gunshot wound, the missile entering the right lower quadrant just above the symphysis pubis and making its exit through the right buttock. At laparotomy, the cecum and small bowel were repaired and the bleeding right uterine artery was ligated. Injury of the right lower ureter was not recognized. A ureteral stricture developed in this area and urine continued to drain from the fistulous opening in the right buttock. Figure 8, an excretory urogram, shows the right hydronephrosis and hydroureter above the site of stricture. Figure 9, a retrograde injection of the fistula in the right buttock, shows the fistulous cavity and its communication with the right ureter. At laparotomy, six weeks after the initial injury, the ureter was transected above the fistulous cavity and reimplanted into the bladder wall near the fundus of the bladder, employing an oblique tunnel through the bladder wall and spatulation of the ureteral orifice. A successful result is seen in the excretory urogram (fig 10) taken six months after the final surgery.



Figure 10: Excretory urogram, 15-minute film, 6 months postoperative.

The preceding case might have been handled by forming a *tube* from a *flap* of *bladder wall* to extend upward to the proximal end of the mobilized ureter. In our experience, however, this technique has been accompanied too frequently by a stricture at the uretero-vesical tube flap anastomosis.

I should like to recommend to you a method that is neither widely known nor used, that of *transuretero-ureterostomy.* The technique involves transecting the injured ureter above the site of injury and mobilizing it proximally so that it can be carried across through a retroperitoneal tunnel to be anastomosed, end-to-side, into the normal opposite ureter. Obviously, the kidney, ureter and uretero-vesical valve apparatus on the "good" side must be perfectly normal. At first thought, one hesitates to jeopardize a normal ureter because of fear that it too may be strictured through some mishap at the anastomotic site. In our series of eleven cases, this misfortune has not been encountered. Ten of eleven cases may be classed as excellent results in every way. In the eleventh case, the transplanted ureter pulled free from the anastomotic side, apparently due to tension, but the normal ureter closed without incident and without stricture. An illustrative postoperative retro-



Figure 11: Retrograde uretero-pyelogram, 3 years after transuretroureterostomy.

grade ureteropyelogram from an early case is shown in figure 11.

Isolated ileal segments have been used to replace one or both ureters, partially or completely. This procedure is particularly appropriate where both ureters have been extensively damaged or where through long-standing obstruction or neuromuscular dyskinesia, ureters have lost normal peristaltic function. This procedure is extensive and time consuming; it has been very satisfactory in our experience in the patient with good renal functioin, but should not be attempted in the patient with hopelessly compromised kidneys; his renal reserve may not be sufficient to carry him through the stresses of the long operation and the possible complications of the postoperative period.

Table 1

Treatment of Ureteral Injury

1. Deligation
 a) Early
 b) Delayed
2. Nephrostomy — good temporary measure.
3. Ureterostomy-in-situ — good temporary measure.
4. Ureteral re-anastomosis.
5. Ureteral re-implantation into bladder.
6. Bladder tube flap (Boari-Ockerblad).
7. Trans-uretero-ureterostomy.
8. Ileal substitution and diversion.

IV. URETERAL OBSTRUCTION FROM EXTRINSIC MASSES

Periureteral tumor is the most common cause of obstruction; of these tumors, carcinoma of the cervix is most frequently seen. A persistently recurring problem is whether or not urinary diversion is indicated for the patient whose ureters are blocked by infiltrating tumor masses. I believe that nephrostomies, or other forms of diversion, are not indicated in the patient whose ureters are obstructed if there is no hope of curing the primary disease. Death from uremia is to be preferred to a miserable extension of the patient's suffering by urinary diversion.

In males, prostatic cancer will commonly obstruct the terminal portions of the ureters with encroachment of such a tumor at the junction of the middle and lower thirds of the left ureter. Anti-androgen therapy will frequently relieve such obstruction for long periods of time.

A rather special instance is that of ureteral obstruction from metastases of testicular cancer. Lymphatic drainage of the testes is such that there is a confluence of lymph channels around the hilum of the left kidney. Figure 13 shows the left kidney and upper ureter pushed laterally by a mass resulting from metastases of a seminoma of the testis. Upon irradiation of this region there is a surprising resumption of normal structure and function (fig. 14)

As a final suggestion, extensive damage to the upper portion of the ureter may indicate the desirability of transplanting the kidney to a more favorable location. Clinical application of this method has not yet been reported. In the reported cases of transplantation of the kidney between identical twins and in our own recent successful experience with this procedure, the concept has grown that it would be quite feasible to obviate a long portion of injured ureter by transplanting the kidney into the iliac fossa. The upper ureter could be re-anastomosed to the lower intact ureteral segment or be implanted directly into the bladder. This procedure in dogs is one of the standard exercises for developing facility in kidney transplants and has been done successfully many times. It is possible to obtain a normally functioning kidney with an excellent ureteral attachment to the bladder. We hope to apply this principle in the human patient when the proper clinical situation is at hand.

CONCLUSION

It is apparent that a large repertoire of diagnostic and therapeutic endeavors is available to meet the problems of ureteral obstruction. The basic consideration is preservation of renal integrity. Selection of the proper method requires a background of familiarity with the possible alternative choices.

30 Days Has September

But August goes September one better and has 31 days. And that brings us to our point of interest and discussion.

When we originally set up Doctor Courtesy Groups, we established different dates for different groups. However, now all Doctor Courtesy Groups will be opened so that you or any members of your staff may enroll in the plan at this time. Annually, each ensuing year your group will be reopened on this identical basis. Of course, new employees may enroll at the time of their employment. The effective date will be September (either the first or the fifteenth). By setting up one month out of each year, we will be able to process and serve each Doctor Courtesy Group more effectively and certainly more quickly. Our improved procedures lend themselves most readily to this situation.

If there is a point on which you desire clarification, please contact our Enrollment Department immediately. The address is

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Medical Society of the United States and Mexico

Annual Meeting - 1961

The Medical Society of the United States and Mexico plans to hold its next meeting in Hermosillo, Sonora, Mexico. The dates have been fixed at December 6, 7 and 8, 1961. Dr. Carlos Tapia, one of our founder members and always one of our most active collaborators, will be our host. Dr. Tapia is currently President of the Sonora State Medical Society. He has forwarded us a tentative program as follows:

December 6, Wednesday

9:00-11:00 A.M. — Registration
11:00- 1:30 P.M. — Scientific program
1:30 - on — Buffet with the Ladies, free afternoon and get together in private homes

December 7, Thursday

9:30- 1:30 P.M. — Scientific program
Trip to Kino Bay (for the Ladies only)
1:30 - on — Dinner with the Ladies, free afternoon, Exhibition of Native costumes

December 8, Friday

9:30-12:00 P.M. — Scientific program
12:00- 1:30 P.M. — Business session
President's address
2:30 P.M. — Governor's banquet with the Ladies
9:30 P.M. — Dance

Hermosillo, as many of our members know, is a clean, modern, small city, the capital of the State of Sonora. It has excellent lodging facilities. Eighty miles farther south is the port of Guaymas, a favorite fishing resort in the Gulf of California.

The scientific papers have not been secured, and if any of our members wish to assist us by suggesting speakers they are requested to communicate with the Secretary of the Society, Dr. M. A. Carreras, at 130 S. Scott, Tucson, Arizona.

The Executive Committee of our Society has suggested and endorsed a plan at remedying some of the difficulties that have arisen from the inception of the ECFMG examination. This plan has been endorsed by our Mexican colleagues and has been offiically supported by the Dean of the Medical School of the University of Guadalajara, Dr. E. Gonzalez Murguia. Dr. Gonzalez has also undertaken to propose their plan for endorsement of the Association of Deans and Faculties of Mexican Medical Schools which met in the month of May. At this writing no word has been received about their action.

The plan consists in allowing graduates of Mexican Medical Schools, who have not taken the EGFMG examination to occupy positions in U.S. Hospitals in a special probationary category comparable to clerical clerks or observers for an arbitrary period of six months. During that time such clerks would be entrusted with very limited responsibility in patient care, but would be given an intensive course in the English language, as well as a series of lectures on medical topics, supervised clinical tasks such as history taking and physical examinations, assistance at operations, etc. At the completion of such a period of probationary training the clerk would be expected to take the ECFMG examination, the successful completion of which would obligate him to serve the hospital that trained him, for a period of no less than double the length of time he spent in his training, as a full fledged intern or resident. We firmly believe that this plan, in principle, has merit though details of implementation would have to be worked out by the Educational Council itself.

Juan E. Fonseca, M.D.



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The President's Page

Address Presented To The Womens' Auxiliary

April 27, 1961

Leslie B. Smith, M.D.



Leslie B. Smith, M.D.

It is indeed a very honored opportunity to have you, the backbone and guiding influence of the medical profession as a captive audience for the next few minutes. I will not steal your time, except as allotted, even though I would prefer a much longer period with you. Without censure, may I propose that yours is yours, or so it was yesterday. But how about Tomorrow?

You, the wives of the guardians of the health of the people have always played a vital part in the fulfillment of the purposes of medicine. This is exemplified by your activities and programs. We are all indebted to you and most appreciate your fulfillment of your obligations. To mention a few of your accomplishments — (1) Nurses Loan Fund, (2) Health Careers, (3) AMEF, and many others. Also, each of you participate in the broad activities of your county auxiliary.

We are most grateful for your cooperation and advice in the actual staging of our annual meetings; this year for your hospitality room, the hobby show, and especially for the money tree. These are ingenious contributions. Thanks a lot.

However, in spite of all your efforts and accomplishments, there are other burdens which should be added to your seemingly full schedules. These I will try to elucidate briefly. You are potent partners of the Medical Profession, and as such, your responsibilities are indispensable.

No jokes today. I am not a comedian. Besides, there is little time for the frivolous. These are serious times, even more so than we have been taught to expect as our heritage.

Today, my remarks will relate to politics. I do not mean partisan party politics, but as it relates to government. Why should politics be injected into a medical meeting such as this? It is axiomatic that the health of the people cannot be separated from their political existence. Whenever government threatens to change the health and welfare, medicine must be vitally concerned. Senator Kerr says, "You doctors can keep out of politics, but you cannot keep politics out of your business."

Our very existence as free people is threatened to extinction, not only as the doctor-team, but as citizens. The destructive forces come from without our boundaries and from within.

Khrushchev has stated that your grandchildren will live under communism. He has also said that "your country (USA) is becoming so socialistic that within 15 years there no longer will be a basis of conflict between our two countries." This is the threat from beyond.

Today, we must seriously be concerned with

the ominous advance of socialism, which will demolish our freedom. We are now faced with the enactment of legislation, the King-Anderson bill, which would socialize a segment of medicine. This Forand type legislation is recognized by non-medical political analysts as the major necessary step before all phases of medicine would fall to the proponents of centralized dictatorial government admnistered by the "New Class" of aristocracy. When medicine becomes socialized, the completion of a socialist state becomes immanent. This is where we must be concerned, not wholly for selfish reasons, but for the equanimity of all.

I need not, and time does not allow that I enlarge on the humbling effect of the Cuban fiasco or how it has lessened the stature and prestige of what we thought to be our peerless country, or how some of our friendly countries have cried out that it is the most degrading thing which has ever happened to the United States. However, these recent happenings, when added to that which has already transpired, does force the question: How could this happen to such a great nation which was assumed to be composed of strong, free, altruistic, educated people, during a time of abundance?

The answer is that our people are sick. They are suffering from a social disease of atrophy of the moral-individuality. It is paradoxical to state that this is a deficiency disease in the land of plenty. We find that the citizens too frequently partake of abundant goodies and have neglected to balance their intellectual diet with facts. During this battle of political ideologies, the public has consumed, by forced feeding, a bunch of fallacious facts and even lies, honeyed-up by the social planners whose prime purpose is the weakening of everyone's moral fiber to create for themselves a nation of atrophied puppets.

A Democratic nation or a Republican government such as ours can be no stronger than its people.

It is indeed fortunate that the deficiency disease from which we suffer is reversible by a balanced diet and specific medication. Yes, we have a specific potion, which if given in proper dosage will neutralize the overdose of venom which has been foisted upon us. This specific remedy is TRUTH. If the people know the truth, with its supporting facts, the direction of misguidance will change and take the road which will continue the freedoms.

We can furnish the cure if we will add action to our sincere objectives. These objectives embrace the preservation and advancement of the health of all.

First, we must be sure that we, ourselves, know the facts. Then we must impart these essentials to all those whom we desire to befriend. Also, we must make a specific effort to express our conviction to those who represent us in government and encourage others to do likewise. This we can and must do. Senator Kerr recently told the medical profession that "unless you do this, be prepared to suffer the consequences."

Time is running short, and we must act now. Speaking of time running short — so is mine. This public educational program is one in which we hope you will participate.

Now, to be more specific about the immediate issues. The Forand Type legislation now before the Congress, H.R. 4222 which is the King-Anderson bill and the administration's alleged bill for the medical care for the aged, is truly socialized medicine because it has been so recognized by the Socialist Party and others.

Your husbands find themselves in an almost defenseless position. Their time is almost completely occupied by their first obligation, the care of the sick. They have little time left over to protect the freedoms of those whom they love, which is not only you, but all of their charges. They cannot forsake the care of the sick because to do so would draw down the wrath of those who choose to villify the medical profession. While the doctors are fully occupied with their dedicated care of the masses, there are those who, with duplicity and herculean effort, seize upon this point of vulnerability to degrade the selfless physician. You can compensate to a large extent this time deficiency.

In Chicago recently I heard Mr. Roger Fleming, Secretary-Treasurer of the American Farm Bureau Federation, give an excellent presentation on the socialistic advances in this country of ours. He stated that in his position and office in Washington, D. C., everyone expected him to know all the answers. He related that he is frequently asked how this race with socialism will come out. His remarks were very enjoyable to me and, I think, appropriate for all of us. He said, "I tell my friends, 'I do not know how the race will end because I am only a jockey. If you

want to know who will win, you will have to ask a bookie. I am only a jockey but, as a jockey, I am giving my horse the best ride I know how. In fact, I am riding Hell out of him.'" In this race — our race — we must give our horse, which is the best, a good professional ride or we will lose.

There is adequate reason for optimism and definitely no reason for the spineless, defeatist attitude which has been adopted by some.

The majority of the congressmen are not in sympathy with further socialization, and particularly with the socialization of medicine. However, because they are sincere in their dedication to represent the majority of their constituents, which also insures their political future, they must know the will of their voters, and this we can cause to be given to them.

The experts tell us that there is time for us to accomplish our purpose, but the time is relatively short and requires action within the next few months.

The Honorable Senator Robert S. Kerr has told us that our cause is right — that we must prevent the socialization of medicine because we or the other citizens will not be free by a program administered in Washington. The administration's bill, called the King-Anderson Bill, H.R. 4222, is such a bill, although it is alleged to be for the medical care of the aged, which it certainly is not.

If I have added a spark to your enthusiasm which will incite needed action and a quest for Know-how, we will all be proud to relate to our posterity that we did our part in the preservation of Freedom and the dignity of Man.



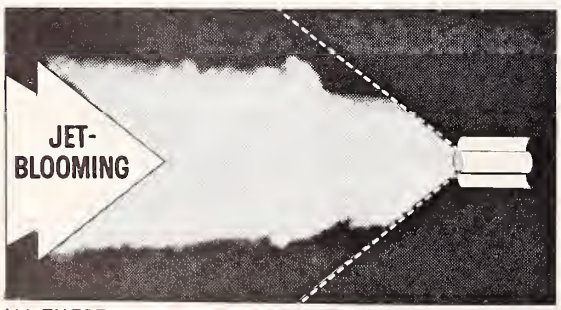
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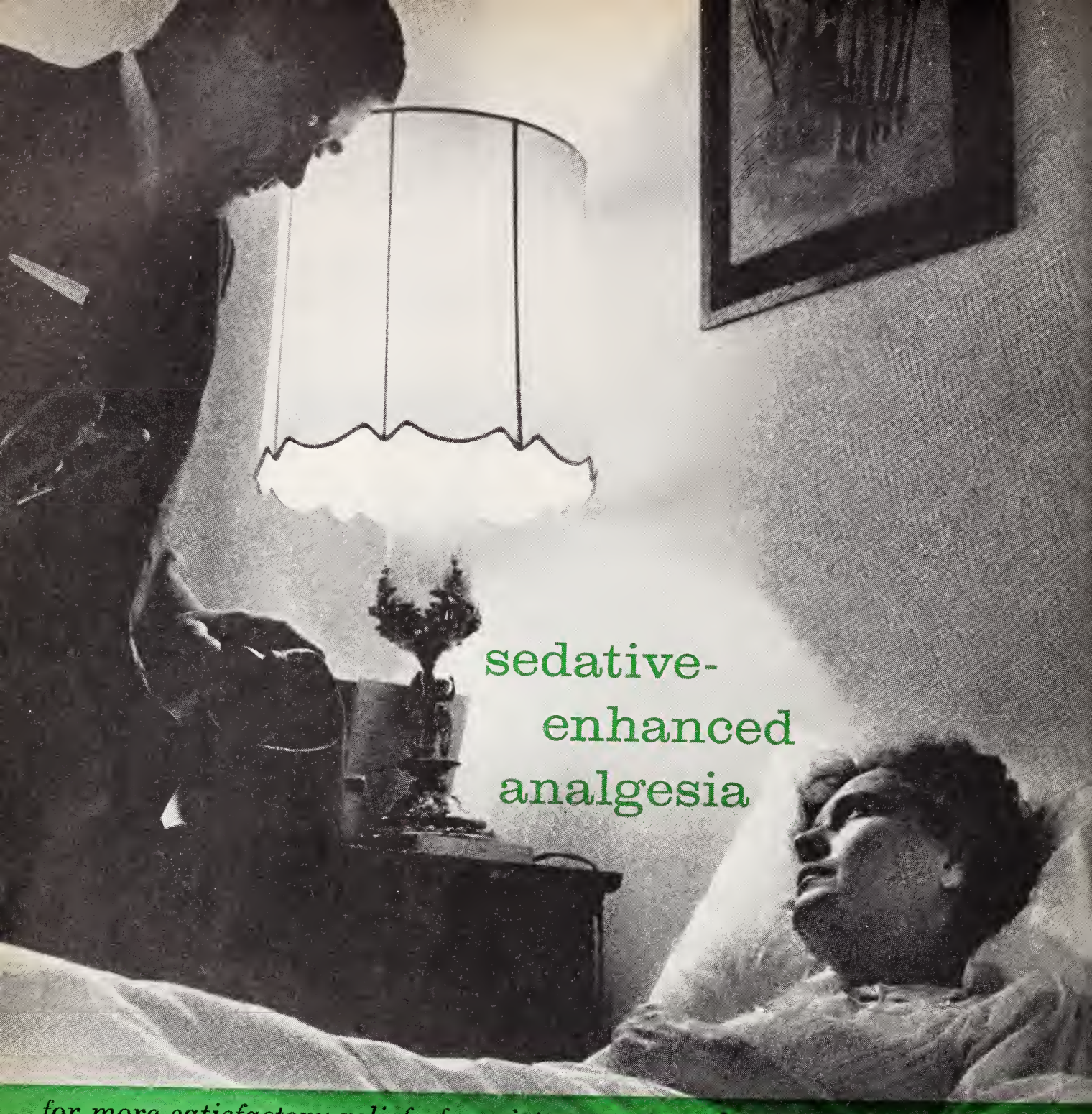
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1. Meyers. G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

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Editorials

Wouldn't Three Be Better?

In an issue of the Arizona Weekly Gazette one of medicine's best friends, Mr. Julian DeVries, has pointed out the need for cooperation between the two professions of medicine and law. He points out that in recognition of this need a group of physicians and lawyers in the Tucson area have formed an organization in an effort to arrive at a better understanding and cooperation. Obviously such a group, in order to be successful, should have at least two motives. The first would be to arrive at a better understanding of each profession's objectives and problems in areas of mutual interest and the second would be to attempt to direct their professional talents in a cooperative effort for the maximum good of the clients and patients whom they serve. This is inded a laudable effort and it is gratifying to know that not only is this being attempted in Tucson but in many other areas of the country as well.

Early in his thesis Mr. DeVries makes the following observation. "Three persons stand ready

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accept for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

Editorials of Arizona Medicine are the opinions of the authors and do not necessarily represent the official stand of The Arizona Medical Association. The opinions of the Board of Directors may be sought in the published proceedings of that body.

to aid the individual in trouble — his lawyer, his doctor, and his spiritual advisor." The third man for this trio, the spiritual advisor, has not gone unnoticed. In several areas of the country physicians and spiritual advisors of many faiths have formed organizations for purposes of better mutual understanding and better service to their patients and parishioners.

With very little thought it becomes quite evident that there are many situations in human experience which combine a great many medical, spiritual, moral and legal factors. Some of the most frequently encountered would be marital problems, divorces, family planning, birth control and artificial insemination for childless couples. Euthanasia periodically comes up for discussion. Even the more common medical procedures such as for example, administration of blood transfusions or various measures for the relief of human suffering can become real problems from not only medical but legal and spiritual viewpoints.

Is it untimely to suggest then, along with sincere commendation for the cooperative efforts of two professions for the maximum good of the individuals served, that the next logical step is for the three professions of medicine, law and the ministry to engage in a similar effort? If two is good, wouldn't three be better?

R. Lee Foster, M.D.

EDITOR'S NOTES

Recent court decisions maintain that when a patient's personal physician is unavailable and the life or health of the patient is threatened, the hospital is responsible to take action of its own.

(James E. Ludlam, counsel for the California Hospital Association)

* * *

Consent forms for surgery must be tailor-made for the specific operation and for this specific patient. Obtain a permit for the specific operation and "to do whatever is deemed advisable or necessary in case some unforseen condition arises in the course of the operation calling in the operator's judgment for procedures in addition to or different from those contemplated." Patient declares he is unaware of specific dangers as enumerated. The patient is requested to leave the choice of the anesthetic to the designated physician-anesthetist and acknowledges that "this is an independent function from surgery." The patient is asked to declare that he is fully informed "of the nature of the surgery, the purposes, the alternatives, and the possible complications." He specifically states, "I acknowledge that no guarantee or assurance has been made to me as to the results that may be obtained."

(Dr. Leo J. Adelstein, medical examiner for Los Angeles County)

* * *

. . . Trauma may speed the growth of a tumor, or play a role in its genesis.

(Dr. Bernard Gottfried, Waldemar Medical Research Foundation)

* * *

Postemetic longitudinal tears in the mucosa and submucosa of the cardia of the stomach may cause massive upper gastro-intestinal bleeding. (Mallory-Weiss syndrome.)

* * *

ADVERTISING REVENUE 1961 — The net average down is about 29.2% — January through June, for the State Medical Journal Advertising Bureau Group of 34 journals compared to 1960 (same period).

* * *

DRUG TRADE NEWS reports that Senator Estes Kefauver completed drafting controversial legislation designed to place new curbs on the drug industry. His bill, UPI learned, would require Federal licensing of drug manufacturers for the first time. The Kefauver bill also would: (1) Require manufacturers to give detailed, specific information about their products to doctors; (2) Strengthen inspection of drug manufacturing plants by Federal inspectors, and (3) Relax patent rights on certain drugs, thereby making manufacturing know-how more readily available to competing firms.

* * *

THE FEDERAL TRADE COMMISSION, under Chairman Paul Rand Dixon, is expected to go along with a recommendation on the "old" commission designed to enable FTC to go after promotional materials, including medical journal advertising, distributed to physicians, *Drug Trade News* has learned. FTC has brought few actions against medical journal advertising in the

belief that its jurisdiction in this area is somewhat questionable.

LETTER TO THE EDITOR

Mr. H. C. Warnock's letter to the Editor printed in the April, 1961 issue, stimulated the following comments from this quarter.

Of great concern to physicians and responsible lawyers alike is the developing reluctance on the part of doctors to use a new or unusual treatment in an attempt to help their patient because of certain court decisions which tend to make the physician not only the guarantor of the patient's safety, but results as well.

The godlike quality ascribed to physicians in the past has contributed to this situation. Surely a man who is omnipotent and omniscient could not fail to heal unless he were negligent or careless. Yet, we doctors die of the same diseases we profess to cure.

Recently our halo has slipped in spite of the fact that it is no longer necessary to agonize with the family while a pneumonia crisis runs its course to end fatally or favorably. The crisis never is reached, but the *antibiotic*, not the doctor gets the credit. No human contact in the sharing of an intense emotional experience with the family is available to venerate the physician.

Mr. Warnock could have pointed out that the majority of malpractice cases are conceived through irresponsible talk, gestures or facial expressions on the part of another doctor. The physician who engenders the suit usually has no knowledge of the difficulty the plaintiff encountered, and never bothers to find out the circumstances before rendering a critical opinion.

There are attorneys who point out that favorable testimony which wins the case will insure payment of the doctor bill. Likewise there are doctors whose testimony is influenced by this consideration.

We have no inter-professional problems which honesty, integrity and adult behavior on both sides wouldn't immediately solve. The fact that all problems will never be solved attests to the fact that like the poor, the greedy, the avaricious and the disturbed are always with us. Fortunately they represent a small portion of both our groups as well as our patients and their clients.

Yours truly,
Paul B. Jarrett, M.D.

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In Memoriam

Frederick Valles, M.D.

1879 - 1960

Senor Frederick Valles was of the old school. Today's electronic equipment and sterile computer miss much. Medicine has been and forever will be an art, a science, and an amenity. Here was a gentleman physician who was a scholar to his very finger tips.

Although devoted to medicine, his restless mind would not remain in this ivory citadel; he was expendable beyond its confine and expressed himself elegantly as a humanitarian, a poet, a philosopher, a scientist, and a world traveler — in brief he was a man who reached up and in reaching touched a star.

Nonentities never carry the torch of civilization; a small minority of restless controversal minds, perforee enrieh and safeguard it.

Doctor Valles was born in Tacna, Peru, where he received his early education at Tacna Lyceum. His Bachelor's degree was conferred in 1904 from the Colegio Vilar in Barcelona, Spain. He received his Doctorate in medicine from the University of San Marcos, Lima, Peru, in 1907. He subsequently studied in many European capitals



Frederick Valles, M.D.

and presented many literary and scientific papers there and in various capitals of South America.

Much of his poetry, essays and scientific contributions were published in Spanish, Italian, French and Portuguese periodicals and journals; thus they have eluded the English press.

He married Emilia Massauguer Lloret in 1903. They enjoyed close upon three decades of marriage before she died, leaving two children, Frederick Jr., and Mrs. Alex (Estela Valles) de Jacome.

Following his training, Doctor and Mrs. Valles traveled the Amazon Territory and practiced in Manaos, Brazil. After two years he established himself in Buenos Aires, Argentina, where he became director of one of the city's leading clinics.

In 1921, he moved to Tucson, Arizona, where he practiced to within a month of his death in December, 1960; along the way, in his journey to the United States through Central America and Mexico, he served as a living link between the medical and literary professions of South America, Mexico and United States. In his time he bridged a chasm that was wider than exists today, for in the late Nineteenth Century a revolution was already brewing, in which wake we are enjoying the fruition of scientific, intellectual and literary achievements. It is not given to every generation to live through this revolution. He saw and partook of a new frontier of science, humanity and intellectualism.

Amidst these crowded years, and this as an index of the magnitude of his medical service in Southern Arizona alone, he delivered over three thousand infants. He is survived by his second wife, Sarah McDermot Gill Valles, as well as eight grandchildren and five great-grandchildren.

This seignior was a visionary. He was a nonconformist. He was controversial, but mark him well as one who stood up to be counted. Now, now at last he is at peace. Ave etque vale!

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You benefit, too, Doctor. You get your money quickly and the patient's good will. Your patients will appreciate your thoughtfulness in suggesting the Budget Plan for Health.

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Topics of Current Medical Interest

Arizona Poison Control Centers

More adequate usage should be made of the two Arizona Poison Control Information Centers now located as follows:

Arizona Poisoning Control Information Center, College of Pharmacy, University of Arizona, Tucson, Arizona. MA 4-8181, Ext. 661. Night: MA 4-6547. Albert L. Picchioni, Ph.D., Pharmacologist and Director. EA 6-2600 Lincoln Chin, Ph.D., Pharmacologist.

Poison Control Center, Maricopa County Medical Society, 2025 N. Central Avenue, Phoenix, Arizona. ALpine 8-8486. Paul B. Jarrett, M.D. Director.

The question has arisen as to the advisability of establishing additional Poison Control Information Centers. These two are readily available by telephone throughout the State. It would seem inadvisable to go to greater expense to establish additional centers. However, more adequate usage should be made of the present ones in the districts that are outlying from these two central points.

Poison Control Treatment Centers are located as follows:

Ajo — Poison Control Center, New Cornelia Hosp. DUdley 7-7261. O. W. Friske, M.D., H. J. Mills, M.D.

Douglas — Poison Control Center, Douglas Hosp., 610 9th St. EMpire 4-2421. C. W. Ahl, M.D., A. J. Rice, M.D.

Flagstaff — Poison Control Center, Flagstaff Hosp., Rt. 1, Box 10. PRospect 4-7151. Doyle R. Taylor, Estelle Wallach.

Ganado — Poison Control Center, Sage Memorial Hosp., Ganado Mission. 2103, Night: 2106. W. D. Spining, M.D., Shirley Roeder.

Grand Canyon — Poison Control Center, Grand Canyon Hospital, Box 495. 14. Watson M. Lacy, M.D.

Holbrook — Poison Control Center, Holbrook Municipal Hospital, 152 W. Hopi Dr. JAckson 4-3731. Night: JA 4-6673. Violet E. Coplan, R.N., Helen Wood, R.N.

Kingman — Poison Control Center, Mohave General Hospital, 301 W. Beale. SKyline 3-2112. Mae McMullen, R.N., Enid McNeff, R.N.

McNary — Poison Control Center, McNary Hospital. 200. Jack I. Mowrey, M.D., Reva Nikolaus.

Phoenix — Poison Control Center, Good Samaritan Hospital, 1033 E. McDowell Rd. ALpine 2-6611. Paul B. Jarrett, M.D., Elizabeth Poulin, R.N.

Poison Control Center, Maricopa County General Hospital, 3435 W. Durango St. APplegate 8-3541. Dudley G. Singer, Archie Kaplan.

Poison Control Center, Memorial Hospital, 1200 S. 5th Ave. ALpine 2-5911, Ext. 216. Maurice Rosenthal, M.D., Conrad A. Bohannon, Juanita Bolen, R.N.

Poison Control Center, St. Joseph's Hospital, 350 W. Thomas Rd. CRestwood 7-6611. Frederick E. Beckert, M.D., Doris Davis, R.N.

Phoenix, General Hospital, 1950 W. Indian School Rd. CRestwood 9-4411. Howard H. Hunt, D.O.

Prescott — Poison Control Center, Prescott Community Hospital. HIckory 5-2700. Edna M. Franks, R.N., Barbara Rambacher, R.N.

Safford — Poison Control Center, Safford Inn Hospital, 625 Central Avenue. 126. R. S. Keller, M.D., Orville F. Craig.

Tucson — Poison Control Center, Pima County General Hospital, 2900 S. 6th Ave. MA 2-3301. Night: EAst 7-3714. Edward H. Kraus.

Poison Control Center, St. Mary's Hospital, St. Mary's Rd. MAin 2-5833. Sister Catherine Mary.

Poison Control Center, Tucson Medical Center, E. Grant Rd. at Beverly Blvd. EAst 7-5461. Virginia Cobb, M.D.

Winslow — Poison Control Center, Winslow Memorial Hospital, 116 E. Hillview St. 289-2821. Night: 289-4444 or 289-3700. Mabyn Peart, R.N., Kay Yecke, R.N.

Yuma — Poison Control Center, Parkview Hospital, Avenue A & 24th St. SUnset 2-1811. John F. Stanley, M.D.

TOXICITY OF SELENIUM SULFIDE (SELSUN) SUSPENSION

In a previous News Bulletin(1), the Arizona Poisoning Control Information Center reported on the contradictory views regarding the toxicity of selenium sulfide (Selsun) suspension. Since a recent clinical report(2) indicates that improper external use of the suspension may result in systemic poisoning, it is considered timely to re-emphasize the potential hazards following the ingestion of this drug. The case involved a woman who used the shampoo treatment two or three times a week for eight months. She ultimately developed signs of selenium poisoning, which included tremor of the arms and hands, severe perspiration, and a metallic taste in the mouth. Others observed that her breath smelled of garlic, although none had been eaten. Subsequent symptoms included continuous pain in the lower abdomen, weakness, lethargy, anorexia, and occasional vomiting. In addition, selenium, approximately 30 micrograms/ml, was detected in the urine.

Although the poisoning case cited above was due to external abuse of selenium sulfide suspension, it serves to point out the potential systemic danger which may attend the oral ingestion of this preparation. Hence, despite the insoluble nature of selenium sulfide and despite the so-called "built-in" emetic action of the suspension, the Arizona Poisoning Control Information Center recommends emesis or gastric lavage in treating ingestion of selenium sulfide suspension.

ACCIDENTAL POISONING FROM ORAL HYPOGLYCEMIC DRUGS

Before the introduction of oral drugs for the treatment of diabetes, hypoglycemia in nondiabetic persons was an uncommon cause of coma, since accidental parenteral administration of insulin was unlikely. At the present time, however, an increasing number of diabetic patients are using oral hypoglycemic drugs; hence these agents can now be found in many homes. Because of their widespread use, these drugs present another potential poisoning hazard for children who should find them readily available in the home.

Youberg(3) recently reported a case of accidental poisoning involving ingestion of chlorpropamide (Diabinese), an oral hypoglycemic drug. The victim was a 2-year-old boy who was thought to have ingested as many as 18 tablets (250 mg each) of the drug. Apparently, the tablets belonged to the child's diabetic grandmother who was living in the same home as the child.

Upon admission to the hospital, the child was unconscious and was unresponsive to pin prick. The initial blood sugar level was found to be 25 mg/100 ml. The patient's initial response to intragastric administration of glucose was satisfactory. He regained consciousness and became increasingly alert. However, 1½ hours after the last intragastric administration of glucose, he had a grand mal seizure and lost consciousness. He was then placed on intravenous glucose, whereupon he slowly regained consciousness. The most satisfactory therapy was found to be 10 per cent glucose in water administered by intravenous drip supplemented by 50 per cent glucose administered intravenously at intervals. The 10 per cent glucose solution was continued until the 2nd hospital day, after which time the patient was maintained on oral feedings. The blood sugar was 55 mg/100 ml on the 3rd day and 99 mg/100 ml on the 4th hospital day. The patient continued to do well and was discharged on the 11th hospital day. Despite the large dose of chlorpropamide, no toxic effects other than hypoglycemia with coma and convulsions were obesrved. This case history points out the long duration of action of this oral hypoglymemic drug and the need for vigorous and continual treatment with glucose in acute poisoning.

Youberg(3) stresses the importance of considering as a potential cause of coma the accidental ingestion of oral hypoglycemic drugs. In fact, it is his usual policy to administer glucose by intravenous infusion to all patients who upon initial examination are disoriented or comatose. His reason for doing this is to ensure a portal

for medication in case of circulatory collapse or other emergency and to provide a rapid therapeutic test for unsuspected hypoglycemia.

STATISTICS OF 87 POISONING CASES IN ARIZONA DURING FEBRUARY 1961

AGE:	
75.9% involved under 5 year age group	66
5.7% involved 6 to 15 year age group	5
5.7% involved 16 to 30 year age group	5
9.2% involved 31 to 45 year age group	8
3.5% involved over 45 year age group	3
NATURE OF INCIDENT:	
86.2% accidental	75
13.8% intentional	12
TIME OF DAY:	
34.5% occurred between 6 a.m. and noon	30
25.3% occurred between noon and 6 p.m.	22
18.4% occurred between 6 p.m. and midnight	16
9.2% occurred between midnight and 6 a.m.	8
12.6% were not reported	11
OUTCOME:	
100.0% recovery	87
0.0% fatal	0

CAUSATIVE AGENTS:

	Number	Percent
Internal Medicines		
Aspirin	33	34.7
Other Analgesics	2	2.1
Barbiturates	3	3.2
Antihistamines	0	0.0
Laxatives	2	2.1
Cough Medicine	0	0.0
Tranquilizers	3	3.2
Others	13	13.6
Subtotal	56	58.9
External Medicines		
Liniment	2	2.1
Antiseptics	1	1.1
Others	0	0.0
Subtotal	3	3.2
Household Preparations		
Soaps, Detergents, etc.	0	0.0
Disinfectants	0	0.0
Bleach	5	5.2
Lye, corrosives, drain cleaners	3	3.2
Furniture and floor polish	2	2.1
Subtotal	10	10.5
Petroleum Distillates		
Kerosene	1	1.1
Gasoline	0	0.0
Others	1	1.1
Subtotal	2	2.2
Cosmetics	2	2.1
Pesticides		
Insecticides	2	2.1
Rodenticides	0	0.0
Others	0	0.0
Subtotal	2	2.1
Paints, Varishes, Solvents, etc.	4	4.2
Plants	2	2.1
Miscellaneous	10	10.5
Unspecified	4	4.2
TOTAL	95*	100.0

*The total number of causative agents exceed the actual number of poisoning cases since in certain individual poisoning incidents more than one agent was involved.

1. News Bulletin No. 10, Arizona Poisoning Control Information Center, October, 1959.
2. Ransone, J. W., Scott, N. M., and Knoblock, E. C., Selenium Sulfide Intoxication, New England J. Med. 264:384, 1961.
3. Youberg, D. R., Accidental Ingestion of Chlorpropamide, New England J. Med., 263:1130, 1960.

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CONTAGIOUS DISEASE REPORTING

ARS Title 36, Ch. 6 — Art. 2

36-621. *Report of contagious diseases*

A person who learns that a contagious, epidemic or infectious disease exists shall immediately make a written report of the particulars to the appropriate board of health or health department. The report shall include names and residences of persons afflicted with the disease. If the person reporting is the attending physician he shall report on the condition of the person afflicted and the status of the disease at least twice each week.

36-623. *Report by physician of death from contagious disease*

Physicians shall report in writing to the local board of health or health department the death within its jurisdiction of patients dying from contagious, infectious or epidemic diseases. The report shall be made witihn twenty-four hours after death, and shall include the specific name and character of the disease.

36-630. *Violation; penalty*

A person who wilfully secretes himself or others known to have a contagious or infectious disease, or a member of a board of health or an officer of a local health department who neglects or refuses to perform a duty, or a person who violates a provision of this article or a rule, regulation, order, instruction or measure adopted and given the required publicity by a board of

health is guilty of a misdemeanor punishable by a fine of not less than ten or more than fifty dollars, by imprisonment for not more than thirty days, or both, and if a physician, his license shall be revoked.

Rules and Regulations of the State Department for the Control of Communicable Diseases — Adopted April 11, 1943, Revised March 21, 1951.

Regulation 1. Certain words and terms used in these rules and regulations are defined as follows:

b) *Report of a Disease* — By report of a disease is meant the notification to the State and local health department that a case of reportable disease exists or is suspected of existing in a specified person or persons at a given address.

WHY?

The following motion was presented to the House of Delegates of the Arizona Medical Association on April 26, 1960:

IT IS MOVED THAT Chapter VII, Section 4, of the By-laws, relating to the Benevolent and Loan Fund, be amended by the addition of the following:

"Within five years of the admission of a new member to the Association, he must pay to the Benevolent and Loan Fund the sum of One Thousand Dollars ($1,000). Upon completion of this payment he shall be eligible for the benefits conferred thereunder.

"Every member of the Association shall be assessed dues in the amount of $100.00 annually which shall be added to the Benevolent and Loan Fund."

and IT IS FURTHER MOVED that all present members of the Association shall be assessed the sum of One Thousand Dollars ($1,000) each, payable within the next five years and upon completion of this payment, each such member shall be eligible for benefits under the Fund.

Upon the recommendation of the Committee on Amendments, the motion to amend was referred to the Association attorney and to the proper committee(s) for study. The final recommendations are to be sent to the county societies at least three months before being brought up at the House of Delegates meeting in 1962 for vote.

Why have I made the audacious suggestion that the members of the Arizona Medical Association should assess themselves in such an outlandish fashion? Let me give the first answer by asking another question of each member. If, tomorrow, you were stricken by a totally disabling but not fatal disease and had to retire permanently from the practice of medicine, would you (even with the help of your health and accident insurance which runs out in three to five years) have enough assets 1) to live out your life in decent comfort, 2) to provide for your wife's needs for her lifetime in similar comfort and 3) to provide for the support of your children during their minority and through their years of education? If you can honestly say "Yes", you are in the minority. Most doctors would, I believe, have to answer "No".

Provision for the care of the deceased doctor's surviving family is not too difficult to achieve; term insurance is relatively cheap. It is in the provision for the family in the case of total disability of the doctor that the difficulty arises. I am not alone in finding it almost impossible to pay for enough health and accident insurance to carry on our normal standard of living if I should be disabled. I have a constant, gnawing fear that I might become unable to practice medicine permanently and that, at the end of the three years of my health and accident payments, I might be physically unable to kill myself or mentally incapable of realizing the imperative necessity that I do so.

Morbid thoughts? Of course they are but they are capable of becoming realities. In planning for the future, even such morbid possibilities must be taken into account.

Then there comes the thought of retirement and a second question to be asked of each member. Do you anticipate that you will have enough income-producing investments on which you will retire at a reasonable age to travel, to go fishing or hunting to your heart's content or to indulge in your other interests? Many doctors don't. Many are caught as they approach their retirement years without enough investment income to retire and without stamina enough to earn a good living in the practice of medicine. They find it necessary to eat into their meager investments little by little while still having to work to the top of their capabilities. They finally die in harness and leave almost no estate.

Of course, you know this is not going to happen to you. You are going to save, to invest and to hold down your standard of living to make it possible. This is all very well until your

wife begins to wonder why she can't have a fur coat or why you can have only one car in the family. You are earning enough money to let her remain within shouting distance of the Jones', aren't you? Maybe you finally decide that the reason you hate your patients is that you need a long vacation. Your children reach college age and the educational insurance you took out at their birth isn't nearly enough to pay the costs. You are going to send them through college, aren't you? You are going to give your daughter a fine wedding, aren't you? Where is your saving, your investing, and your stinting then?

Even when you are eminently successful (and lucky) in your ambitious investment program, things can happen. Investments have been known to go sour and to lose all of their value. Even if the investments are all in government bonds, inflation can cut the buying power of the bond income to insufficient levels. So then, you retire using the income and a little of the principal each year. What if you or your wife live too long?

Regardless of the type of investment, other events beyond the control of the doctor may wipe out his investments overnight. A child may run in front of his car, may (unfortunately for the doctor's reserves) survive with amputations and may have a Belli for a counsel. A sympathetic jury, impressed by the histronics and the questionable figures of the lawyer, may find for the plaintiff in the sum of three or four hundred thousand dollars. What good is the doctor's $100-300,000 automobile insurance policy then? What good has the doctor's careful investment program done him then?

The doctor carefully gives a spinal anesthetic. In spite of the doctor's care, the patient is left permanently paraplegic and he very naturally sues. He, too, has a Belli for a counsel and gets a massive judgment. The doctor's malpractice insurance covers only a fraction of the judgment and the doctor's investments go to pay the rest.

Without any investment or interest in the company, the doctor might think it harmless to allow the company to use his name on the Board of Directors. Someone absconds with the assets of the company. The doctor, as one of the few directors with any assets, finds himself with an adverse judgment of $200,000. Looking back, it was an unwise use of his name but, when a close friend is doing the asking, it might be quite understandable. Wise or not, the doctor's investments are just as surely gone.

Are these events so rare? Not if you can believe the men who have the unfortunate doctors as patients. Almost every year, a doctor dies practically unnoticed in this state who, it turns out, has been starving for years and dies without an estate.

Social Security is not a satisfactory answer. It will not help the doctor who is incapacitated before he is fifty. It would not help his widow between the time his children reach 18 and she reaches 62. Even when it did pay, Social Security payments are so small that they are almost useless when compared with the need. I would like to see the aging doctor and his wife be able to do more than starve genteely on about $200 a month. In any event, Social Security is virtually bankrupt now and is apparently due to become more so.

When my proposed amendment reached the delegates to the annual convention, I fully expected a blast of condemnation and scorn. To my surprise, the commonest comment I heard was "We should have done it many years ago." To my further surprise, Dr. Manley had a similarly intended resolution to present quite independently.

The need for something more has apparently long been evident to thinking doctors. The need was evident; only the means of satisfying the need had to be discovered, instituted and implemented.

WHAT TO DO?

Several years ago, the Medical Defense Fund (which had been built up through the years from dues assessed against the members) became obsolete and unnecessary. It was decided at that time to set up a Benovelent and Loan Fund, using the old Medical Defense Fund as capitalization, to serve two purposes. The new fund was to be loaned to deserving students to help them to get a medical education. The loans were to bear an interest rate and, upon repayment, the interest earned was to be used for gifts to needy doctors or their families. Only one fault was quickly evident; there simply wasn't enough capital in the Fund to supply the need for loans and the potential income was too small for any good use.

At the present time, the Fund is all loaned out or committed. It will be several years before

the repayment time begins and, in the meantime, our promise to help needy students must be forgotten. The need for capital to make these loans is demonstrated by the number of loan applications which have had to be rejected for lack of money.

After taking a few whiffs on my favorite opium pipe, I began to THINK BIG!! What if the Benevolent and Loan Fund were really built up to be a large fund? Then we could really fulfill the need of helping deserving students with loans. The income from a large fund could make it a truly Benevolent Fund.

Out of this thinking has come the proposed amendment to the By-laws of the Association.

CUI BONO?

Who would benefit from the Benevolent and Loan Fund as I have visualized it? The answer is simple — everyone who comes in contact with the Fund. There would be ample money available to make loans to every deserving student. Every doctor, his wife and his children would benefit tremendously. Even the Trust Department charged with administering the Fund would love the increased size of the Fund.

Even if I never received a single cent from the Fund, the mere knowledge that the Fund was there, available to me or to my family in time of need, would relieve me of the fear of financial catastrophe. Of course I would try to provide on my own for my family as I am doing now. Of course I would expect never to need any help. *BUT*, if I did it would be there. Every doctor would have this reassuring knowledge that the backstop was there.

The older doctor, reaching his declining years and facing the probability that he cannot continue his hectic pace, will be comforted to know that, if his investments disappeared, he would have the money to keep a roof over his head and ample food in the pot.

The young doctor, struggling to pay off his debts for medical school and for setting up his home and office, will be soothed to know that his death or disablement will not bring financial ruin simply because he could not afford enough insurance.

It has been said that this project is being pushed in order that the older doctors may be able to retire on the Fund. As a matter of fact, as it is presently projected the Fund will not provide enough income during the next ten to fifteen years to promise any doctor that he will be able to retire voluntarily and get anything from the Fund. As far as voluntary retirement is concerned, it is the doctor planning to work for another 20 years or more who may look forward to some retirement income. It is also this younger doctor who has the most to gain in protection against premature death or disability simply because he, his wife and his children are younger and therefore have a long time during which they might need benefits.

HOW?

The motion to amend the By-laws has been referred to the Benevolent and Loan Fund Committee for study. I do not know just what will finally come from the committee to the county societies and finally to the House of Delegates next year. I do have very definite ideas concerning some of the essential (I believe) features which must be incorporated in the plan to make it work properly.

INCOME TAX DEDUCTIBILITY

There is no doubt that the payments into the fund would be much easier to make if they were tax deductible. I believe they will be.

If the assessments are made compulsory, they would be deductible as necessary business expenses. By virtue of interlocking By-laws, it is necessary by hospital rules (in Maricopa County, at least) to be a member of the State Association in order to remain a member of the County Society. It is further necessary to be a member of the County Society to be on the staff of most hospitals. Membership on a hospital staff is necessary to most doctors to practice medicine. Ergo, the assessment is tax deductible.

It is also possible that voluntary contributions to the Fund might be deductible. The State Association is a non-profit corporation and the Benevolent and Loan Fund is a part of it and, as such, could be easily declared the proper recipient of charitable contributions. To make sure that the Fund is considered charitable, the items discussed in the following paragraphs must be part of the plan.

In case of abandonment of the plan at some time in the future, one of the conditions of its establishment must be that no doctor may have any right to recover any of the principal that he has put into the Fund. One method to insure this might be a provision that, in the event of

the abandonment of the Fund, the capital would be contributed to the State of Arizona to help in the establishment of a medical school, its maintenance or its expansion. As a necessary corollary to giving up all rights to his contribution, any doctor who has contributed his $1,000 and who continues to pay his annual Fund dues of $100 would retain his rights under the Fund even if he moves to another state to practice.

Furthermore, there must be no set right to any specific amount of benefits under the plan. The only right a deserving doctor or his family would have would be to receive equal consideration from the Benevolent and Loan Fund Committee who would retain the sole right to determine the size of the gift to be given the deserving donee. With such power to be given the Committee, it is essential that only the finest and most honorable doctors in the state would be considered for appointment to the Committee.

It is my own opinion, based upon what I have read, that, if these conditions are adhered to, not only will the contributions to the Fund be tax deductible but so will the gifts to deserving doctors and their families.

Of course, only when the Fund plan is completed will it be possible to get a final decision from the Internal Revenue Department as to tax deductibility.

SIZE OF ASSESSMENTS

I believe that it is essential that there be a big front end on the assessment. Annual dues alone will build the Fund too slowly to be of much benefit unless the dues be made $200-300 per year. At a straight $100 per doctor per year, it would be 9-10 years before the Fund reached the first million and about 17 years before the two million level would be attained. With the $1,000 initial payment, the first million would be reached before five years and the second by seven years.

PROJECTED GROWTH OF THE FUND

Year	No. of Doctors	Annual Dues Income	Initial $1,000 Income	Cumulative Total in the Fund
1962	1050	105,000		105,000
1963	1100	110,000		225,000
1964	1150	115,000		330,000
1965	1200	120,000		450,000
1966	1250	125,000	1,050,000	1,625,000
1967	1300	130,000	50,000	1,805,000
1968	1350	135,000	50,000	1,990,000
1969	1400	140,000	50,000	2,180,000
1970	1450	145,000	50,000	2,375,000
1971	1500	150,000	50,000	2,575,000
1972	1550	155,000	50,000	2,780,000
1973	1600	160,000	50,000	2,990,000
1974	1650	165,000	50,000	3,205,000
1975	1700	170,000	50,000	3,425,000
1976	1750	175,000	50,000	3,650,000
1977	1800	180,000	50,000	3,880,000
1978	1850	185,000	50,000	4,115,000
1979	1900	190,000	50,000	4,355,000
1980	1950	195,000	50,000	4,600,000
1981	2000	200,000	50,000	4,850,000

Growth of the Benevolent and Loan Fund on the basis of a payment of $1,000 by each member within five years or by each new member within five years after joining the Association and on Annual Dues per member of $100. It is also assumed that there will be an annual net increase of membership of 50 active members.

In reality, these figures would rise even more rapidly. The above chart assumes a total of 50 more doctors a year and no deaths during the next 20 years. In reality, it would be necessary to add 60-70 new doctors a year to ensure a net gain of 50 per cent since some of the members will be dying, retiring or becoming totally disabled each year. This would make the increase derived from the initial payment of $1,000 be $60-70,000 per year rather than the $50,000 cited.

Although, as will be seen from a later paragraph, it will do the more affluent doctor no good to pay his $1,000 before the fifth year of the plan, he might find it advisable to pay his money during an earlier year to offset an unusually good income year.

Are the $1,000 initial assessment and the $100 annual dues too much for the young doctor just starting into practice? From my own experience and from what I've heard, I would say no. I can well remember the joys of hurrying to the bank with a small deposit so that I could pay some overdue bills. Such experiences enlivened the first five years of practice for me. Even so, I could have paid the dues if they had been in existence at the time. Parenthetically, I might say that if a young doctor cannot get together $1,000 in five years and cannot get a bank loan to pay off the balance, he had better leave Arizona. He "ain't doing so good." I would bet that there isn't a single young doctor who couldn't pay $100 his first year of practice, $200 the second, $300 the third year, $400 the fourth and $500 the fifth. With that, his annual dues and his initial $1,000 are all paid. From then on, he coasts at $100 a year. Don't forget, the dues will undoubtedly be tax deductible. Lastly, it is quite probable that the Board of Directors will be given the power to extend the time limit in special hardship cases.

ELIGIBILITY

Eligibility for disaster benefits should probably extend from the payment of the first $100 into the Fund. It is granted that this could mean that a doctor could pay in $100, become disabled and then collect several thousand dollars a year for life. This is a chance we would have to take. Perhaps it would be necessary to make new members above a certain age have a waiting period or present a doctor's certificate of good health in order to become immediately eligible.

Eligibility for voluntary retirement benefits should probably require at least ten years membership in the Arizona Medical Association with at least five of the ten years coming after the institution of the plan. Such a waiting period would be necessary to keep doctors who are already of retirement age from moving to Arizona, contributing their $1,000 plus $100 for the first year's dues and then retiring. A minimum voluntary retirement age of 60 or 65 years of age should be required.

HOW MUCH BENEFITS?

Actuarily, it is probably completely impossible to predict how much each of the beneficiaries could receive from the plan. It would depend entirely on the assets or estates of the doctors who became totally disabled or who died. My own feeling is that, after the fifth year (when the initial $1,000 payments of the present members are all paid) the Fund could guarantee to every disabled doctor or to the surviving wife or minor children of every deceased doctor an annual income of at least $5,000 per year. The guaranteed income could even be higher during years of special need such as the college years of the children.

Every disabled doctor or his surviving family would receive consideration for this income as a right but would have to pass a means test. The benefits would be given from the Fund as gifts.

Benefits to voluntarily retired doctors would come after the needs of the involuntarily retired or deceased doctor's families have been taken care of. If there is still income left in the Fund, each voluntarily retired doctor would receive an equal share of the remainder as a gift and without a means test.

PARTICIPATION BY OTHER STATES

I would not be too unhappy to have the doctors of Nevada, New Mexico or any and all states join in to make a Joint Benevolent and Loan Fund with us. I would say that if, within one year, any other State Association wished to assess their members in similar fashion and join with us, we should welcome them. In fact, if the American Medical Association wished to sponsor such a plan and could get the participation of all the states, this would be the best of all and I would not be averse to adding our present Benevolent and Loan Fund to the national plan to help get it going. If there were such a national plan, it would naturally be administered by state committees under general rules laid down by a national study group.

If a plan such as this were to be started nationally, I'm sure that all talk from doctors urging that the medical profession go under Social Security would suddenly vanish like a morning mist. This plan could offer so much more for so much less outlay that no one would prefer Social Security. All doctors would then speak with one voice and on this subject there would

be no question whether the AMA was speaking for all of the doctors.

FINALLY –

I have paid out in the last ten years over $20,000 in health and accident insurance, mortgage insurance, fire and automobile insurance, malpractice insurance and other forms of temporary insurance. I have never collected anything from any of these policies and I'm glad that I haven't. All I have to show for my money is a stack of cancelled checks. I intend to continue to pay for such insurance. However, one-tenth of this amount, paid into the Benevolent and Loan Fund, would have given me more satisfaction than all of this insurance and my capital would still be in the Fund to continue to give me protection.

What the whole proposition boils down to is this, HOW MUCH IS IT WORTH TO HAVE PEACE OF MIND? To my way of thinking, the true peace of mind which this projected fund would provide is worth far more than the average cost of $200 a year in the next 10 years or the average cost of $166.66 over the next 20 years. Although this Fund would not be true insurance, try to find an insurance policy which could do as much for you.

Carl A. Holmes, M.D.
Phoenix, Arizona



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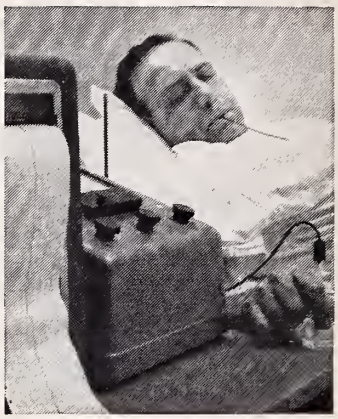
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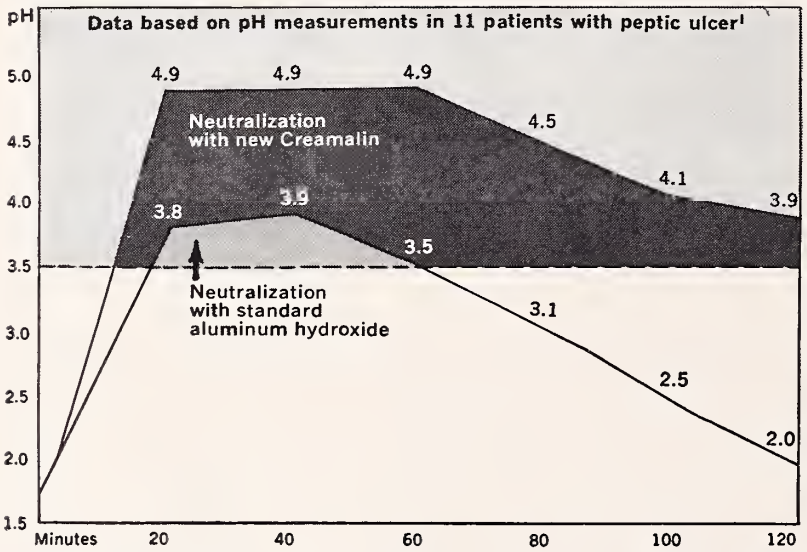
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1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: **J. Am. Pharm. A.** (Scient. Ed.) 48:384, July, 1959.

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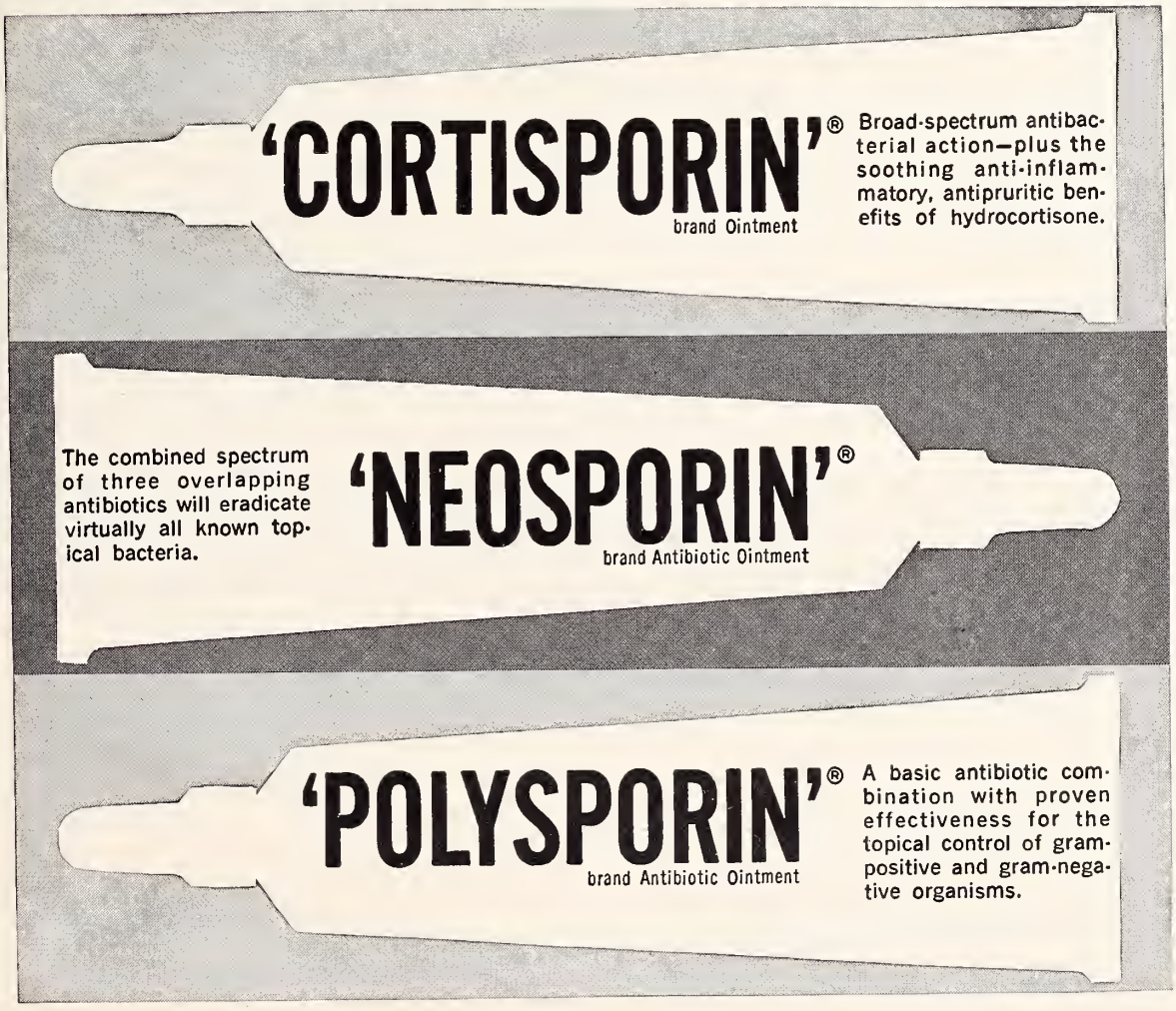
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NOTES OF A SOVIET DOCTOR. By G. S. Pondoev, M.D., (Translated from the 2nd Russian Ed.) Foreword by Iago Galdston, M.D. 238 pages. New York: Consultants' Bureau, 1959.

"The Soviet doctor is a character unprecedented in the history of medicine. His undoubted superiority over the doctor in capitalistic countries, with his so-called 'free' medical profession, stands out clearly."

This theme recurs in every chapter of Dr. Pondoev's book. The reason for this pre-eminence is clear — at least to Dr. Pondoev; it is the application of the ideas of those eminent physicians and scientists Marx, Engels, and Lenin (why not Trotsky?) to the problems of medical practice, teaching, and research. It is regrettable that Dr. Pondoev nowhere makes it clear how — or indeed whether — these ideas actually apply. However, he does buttress his own views with many allusions to the words or ideas of Pavlov. For example, standing as a separate paragraph in the middle of page 196 is the following pregnant comment:

"I. P. Pavlov taught us that we must never think that we know everything."

There are few who will disagree with Pavlov, or with anyone else who made a similar comment. In the same vein are reiterated statements to the effect that Pavlov's teachings show that loud noises and foul smells are undesirable in a hospital. Pavlov would be outraged, or perhaps amused, by his having been transformed into a god by men whom he despised. The fact that Dr. Pondoev seems to find it necessary to lend support to many trivialities by ascribing them to some Soviet hero is probably significant.

Dr. Pondoev nowhere explains why the great biologists and physicians of Russia — Sechenev, Metchnikoff, Bechterev, Tsion, Kernig, Korsakoff, Wedensky, Pavlov, Maximov, etc. — were able to achieve what they did in the 40 years before the Soviet doctor was created, whereas nothing comparable has occurred in Soviet biology or medical science. (Soviet accomplishments in physics, mathematics, and soil science — the Russians lead the world by far in the last — need no exposition here. These accomplishments merely emphasize (a) that it is not correct to lump all sciences together, (b) that nonbiologic sciences can thrive under a dictatorship, and (c) that biologic sciences, which include consideration of man's relation to his environment, thereby involve matters that the dictatorship reserves as its own; they inevitably come into conflict with the dictatorship and must therefore assume distorted forms.)

Dr. Pondoev's book is full of useful pointers for physicians: Never make a diagnosis without examining the patient; do not accept the doctrines of homeopathy without proof; always undress the patient before examining him or her, making necessary allowances for feminine modesty; never tell a patient in a horrified voice that his blood pressure is 280; be kind to medical students; treat the patient as a whole; etc. The author's repetition of the bald statement that the Soviet physician's aim is to increase the laborers' work output would startle even the most conservative industrialists of this country.

Dr. Pondoev's pitifully naive book is unwittingly one of the strongest arguments against the Soviet system to be found anywhere. Its author either finds it necessary to produce a collection of trivia or else, after 40 years under the Soviet dictatorship, has become unaware that he has produced one.

The reiteration of the idea of the Soviet citizens' superiority and of Western Europe's decadence is strangely reminiscent of the pronouncements of certain Germans who went into eclipse with the collapse of Nazism. However, the ideas

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of their own superiority held by the Communists and the Nazis have different origins. The Nazis, of course, insisted on the inherent superiority of their ill-defined race. The Communists, on the other hand, have adapted to their own purposes the ancient idea of Moscow as "the third Rome."

In the fifth century Constantinople was called "the second Rome." When, in the hope of obtaining aid against the Turks, the delegates of the Eastern Orthodox Church accepted union with the Roman Church at the Council of Ferrara-Florence in 1438-39, the Russians were horrified by what they considered the betrayal of their religion to heretics (D. Strémooukhoff, "Moscow the third Rome: Sources of the doctrine," *Speculum*, XXVIII [1933], 84). The fall of Constantinople shortly afterwards was followed by the growth of the Russians' convictions that they were the only true believers left; Moscow became to them "the third Rome" and Russia was "Holy Russia," "Mother Russia," etc. Its rulers were called czars, i.e., Caesars. "Holy Russia" was believed to have a more legitimate right to call itself the successor to Rome than had the "Holy Roman Empire of the German People" (ruled by kaisers, i.e. Caesars) because the Holy Roman Empire was heretical in the eyes of the Orthodox.

The idea of Russia as the conservator of all true knowledge is therefore an ancient one, and it is no surprise that the present rulers of Russia find it useful. This belief of the Russians has seriously injured the biologic sciences in the territories under their control. It may seriously injure the rest of the world if allowed to spread.

Dr. Pondoev's book has been a great success in Russia.

M.D.A.

NEW DIAGNOSTIC TEST FOR LUPUS ERYTHEMATOSUS

A simple diagnostic test which allows accurate screening of large numbers of patients for disseminated lupus erythematosus in a short time has been developed by public health scientists at the National Institutes of Health, Public Health Service.

A connective tissue disease related to rheumatoid arthritis, lupus erythematosus is far more common than indicated by past statistics. Manifestations may include blood, kidney, or nerve disorders, mental disease, arthritis, and butterfly rash of the face and may appear simultaneously. There may be no serious complications for years, but in its acute, disseminated form, it is frequently fatal.

The test, similar to that devised earlier for rheumatoid arthritis, consists of adding a drop of the patient's serum to bentonite sensitized by desoxyribonucleic acid. If the disease is present, flocculation occurs after about 15 minutes of agitation.

Clinical results are described by John Bozicevich, who heads the Basic Immunology Section, Laboratory of Immunology, and Dr. John P. Nasou and Dr. Donald E. Kayhoe of the Laboratory of Clinical Investigations in the National Institute of Allergy and Infectious Diseases, Public Health Service, reporting in the *Proceedings of the Society for Experimental Biology and Medicine*, March 1960.

Advantages of the test are the elimination of the need for fresh whole blood, required by the cell test, and its high specificity. Six persons with frank rheumatoid arthritis gave positive reactions for lupus with the former test, but all were found negative with the flocculation test. Tests on eight lupus patients were conducted with complete agreement in results with the older procedure. For controls, 138 serum specimens from normal individuals or from patients with related and unrelated diseases were appraised, with negative reactions.

More details of the test appear in the *New England Journal of Medicine* for July 7, 1960.

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About 51 per cent of all maternity patients in this country today see a doctor during the first two months of pregnancy, and 99 per cent of all live births take place in a hospital with a physician in attendance, Health Information Foundation reports.





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INDEX TO ADVERTISERS

Ames Co., Inc. Inside Back Cover

Blue Cross - Blue Shield 202
Burroughs-Wellcome Co., Inc. 57A
Butler's Rest Home 53A

Camelback Hospital 24A
Camelback Professional Building 58A
Case, G. M., Laboratories, Inc. 4A
Classified Advertising 56A
Coca Cola 33A

Doctors Directory 53A

Endo Laboratories 19A

Franklin Hospital 4A

General Electric 29A
Glenbrook Laboratories 61A

Hillcrest Medical Center 53A
Hobby Horse Ranch School 4A

Laboratory Directory 62A
Las Encinas 16A
Lilly, Eli & Company Cover, 26A
Loftin's Business Forms 4A
Lorillard, P. & Co. 34A

Mead, Johnson & Co. Back Cover
Medical & Dental Finance Bureau 44A

National Casualty Co. 39A
Nurses Directory 53A

PBSW Office Equipment Center 66A
Parke-Davis & Co. Inside Front Cover
Pharmacy Directory 58A
Physician's Casualty & Health Association 53A
Physicians Directory 64A, 65A

Robins, A. H. & Co. 36A
Roche Laboratories 25A
Roerig, J. B. & Co. 5A, 8A
Ryan-Evans Drugs 60A

Schering Corporation 23A
Searle, G. D. & Co. 27A
Squibb, E. R. & Sons 42A
Standard Brands 30A

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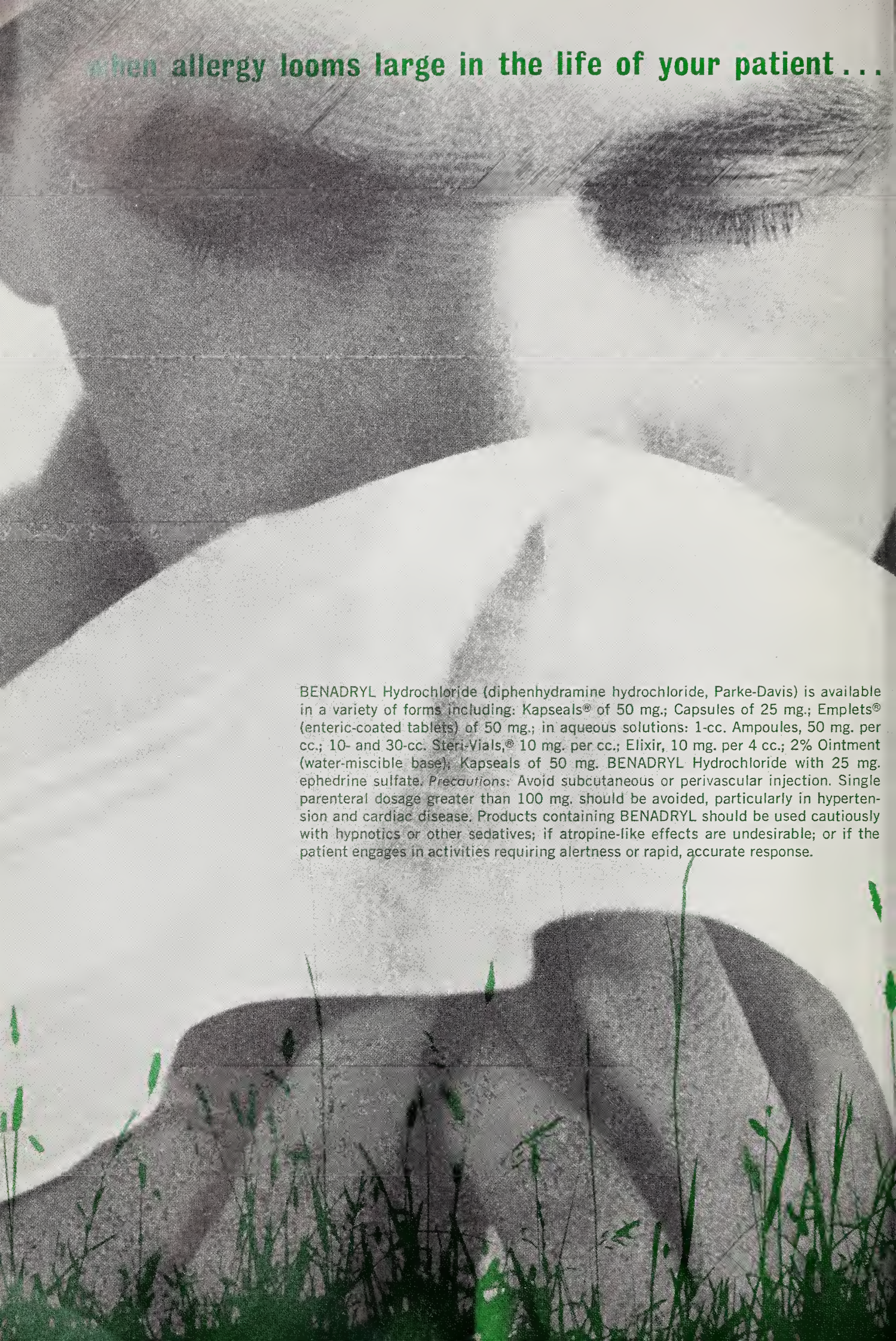
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August, 1961 Vol. 18, No. 8

Table of Contents

ORIGINAL ARTICLES

MODERN MANAGEMENT OF ENDOMETRIOSIS 203
J. G. Moore, M.D.

THE SAFETY OF MILK SUPPLIES 208
Hugh H. Smith, M.D., M.P.H.

WHAT TO EXPECT FROM PUBLIC HEALTH IN THE 60's 211
C. G. Salsbury, M.D.

QUE ESPERAR DE SALUBRIDAD PUBLICIA EN LA DECADA DEL 60 215
C. G. Salsbury, M.D.

RABIES — A PUBLIC HEALTH PROBLEM IN MARICOPA COUNTY 219
Stanford F. Farnsworth, M.D.

THIS IS THE BIOLOGICAL WARFARE THREAT 223
LeRoy D. Fothergill, M.D.

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

ANNUAL MEETING 32A

PRESIDENT'S PAGE

OUR RAPPORT, Leslie B. Smith, M.D. 35A

EDITORIALS

THE BRAINWASHED DOCTOR — Lindsay E. Beaton, M.D. 37A

EYE PROTECTION — A. K. Hansen, M. D. 38A

EDITOR'S NOTES 39A

LETTERS TO THE EDITOR — William H. McBratney — John B. Schaupp, M.D. 41A

TOPICS OF CURRENT MEDICAL INTEREST

CLARENCE G. SALSBURY, M.D. — Edwin A. Busse, M.D. 46A

PRIVILEGE OF THE PATIENT'S SECRETS — Maier I. Tuchler, M.D. 47A

WHAT KIND OF MEMORIAL FOR TOM DOOLEY? — Wallace A. Reed, M.D. 48A

ANNUAL MEETING OF THE ARIZONA PUBLIC HEALTH ASSOCIATION, 1961 .. 49A
Hugh H. Smith, M.D., M.P.H.

BLOOD BANKING — Allan B. Carter, M.D. 50A

AMA — P. R. Manuals 50A

BLUE CROSS — BLUE SHIELD 51A

THE NEW MARICOPA COUNTY HEALTH DEPARTMENT BUILDING 52A

CHLORDIAZEPOXIDE (LIBRIUM) POISONING 53A

BOARD OF MEDICAL EXAMINERS' LICENTIATES — Aprin 15, 1961 55A

REPRINTS

PLAGUE REMAINS MODERN HAZARD 60A

CURRENT STATUS OF SYPHILIS IN THE UNITED STATES — W. J. Brown, M.D. .. 60A

FUTURE MEDICAL MEETINGS AND POSTGRADUATE EDUCATION

ARIZONA ACADEMY OF GENERAL PRACTICE 66A

SOUTHWESTERN MEDICAL ASSOCIATION 66A

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 66A

AMERICAN CANCER SOCIETY — SCIENTIFIC SESSION 66A

AMERICAN COLLEGE OF SURGEONS 66A

AMERICAN COLLEGE OF CHEST PHYSICIANS 66A

ASSOCIATION OF AMERICAN PHYSICIANS AND SURGEONS 67A

REGIONAL MEETINGS — LATE SUMMER AND AUTUMN, 1961 67A

DIRECTORY

OFFICERS AND COMMITTEES 4A

SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTE AMERICA Y MEXICO 6A

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 6A

WOMAN'S AUXILIARY 6A

INDEX TO ADVERTISERS 72A

Published monthly by the Arizona Medical Association, Inc. Business office at 4533 North Scottsdale Road, Suite 211, Scottsdale, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.



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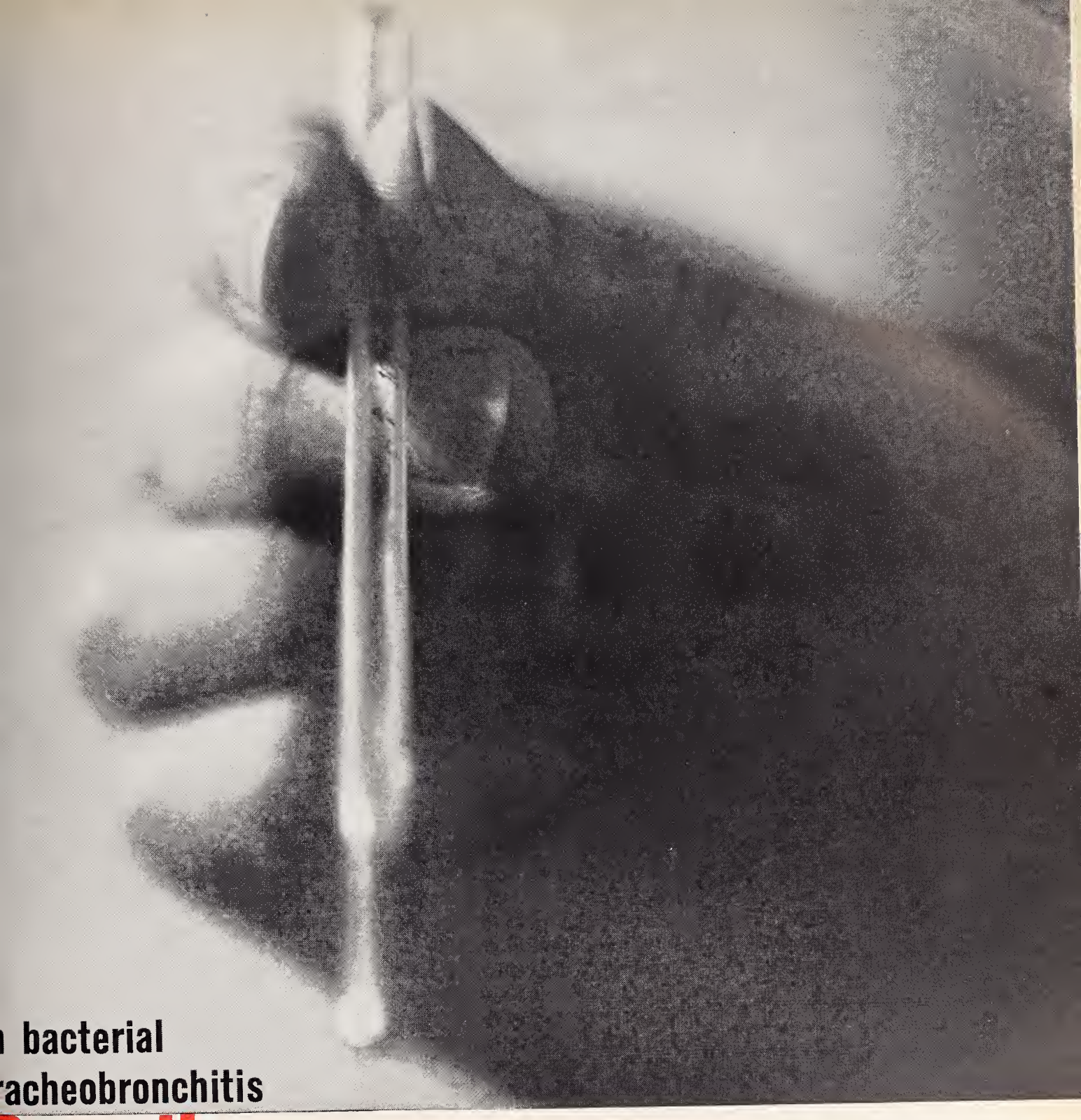
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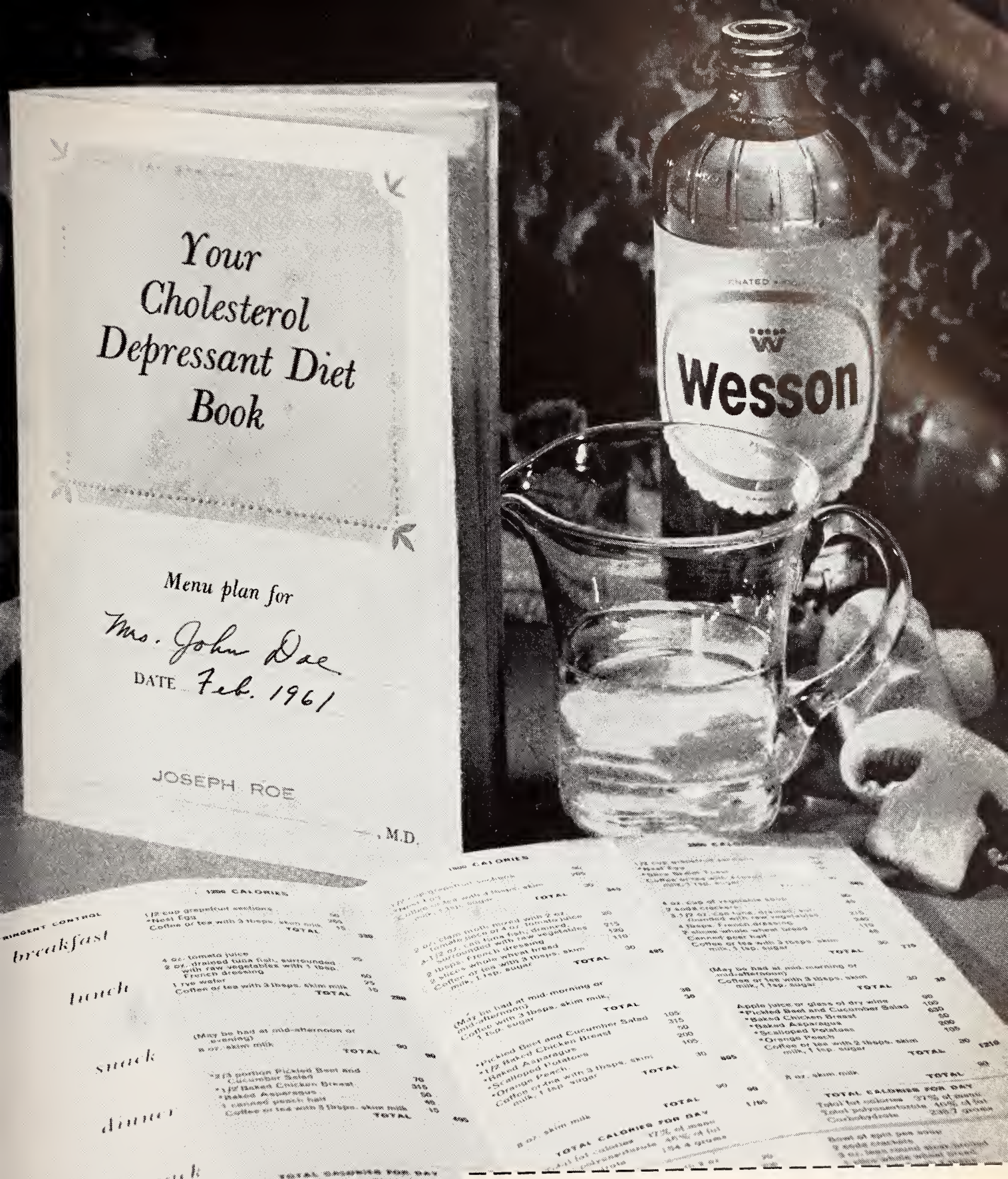
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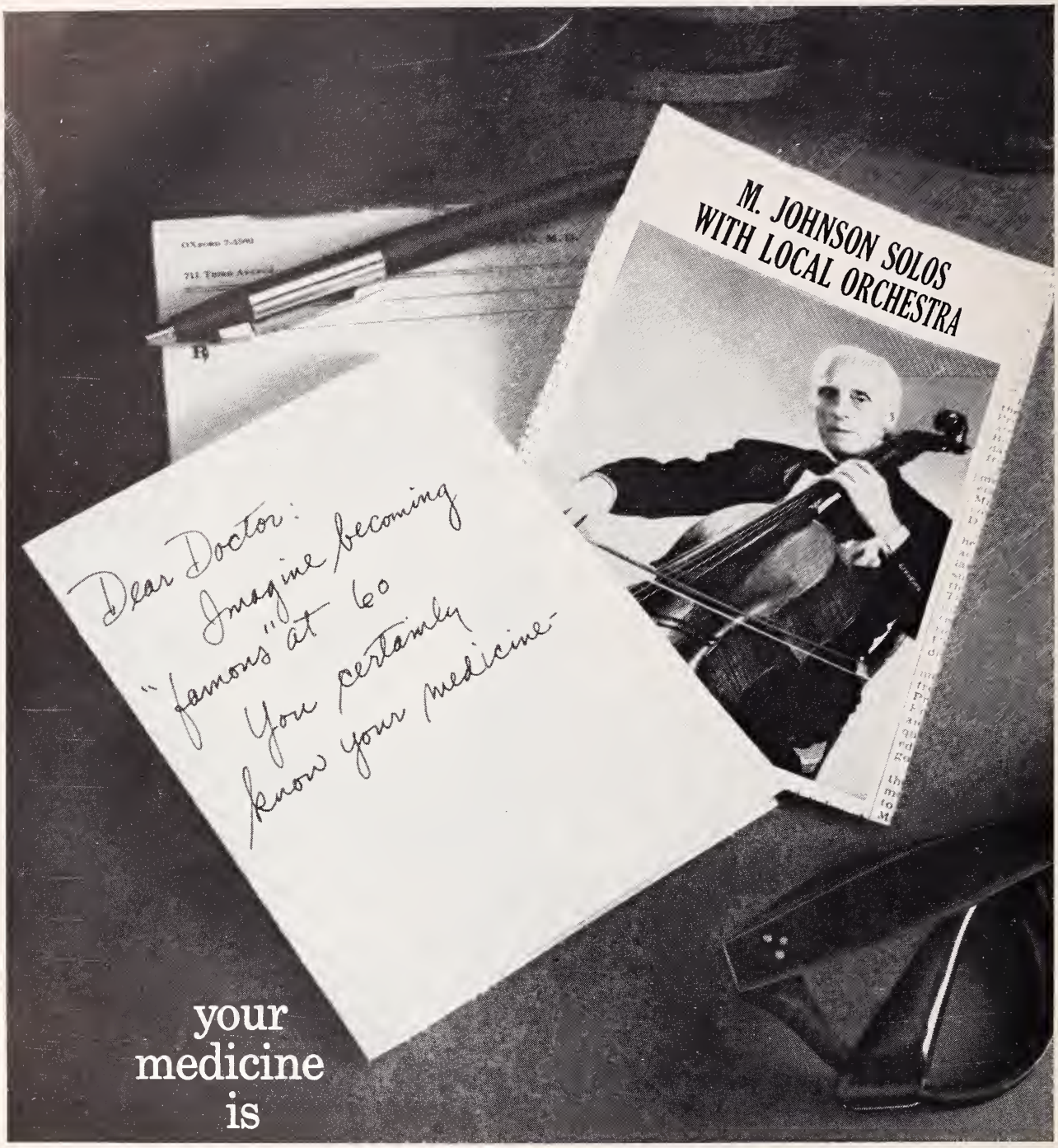
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1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
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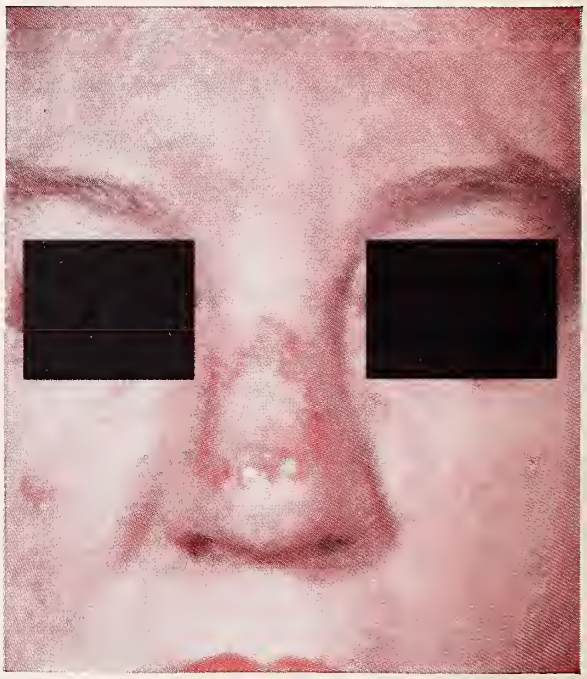
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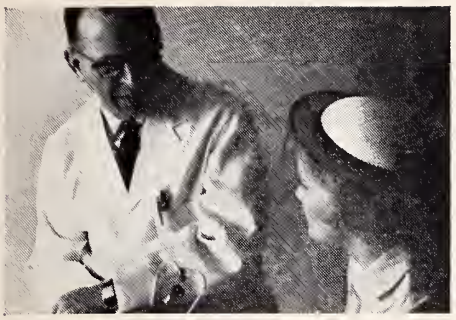
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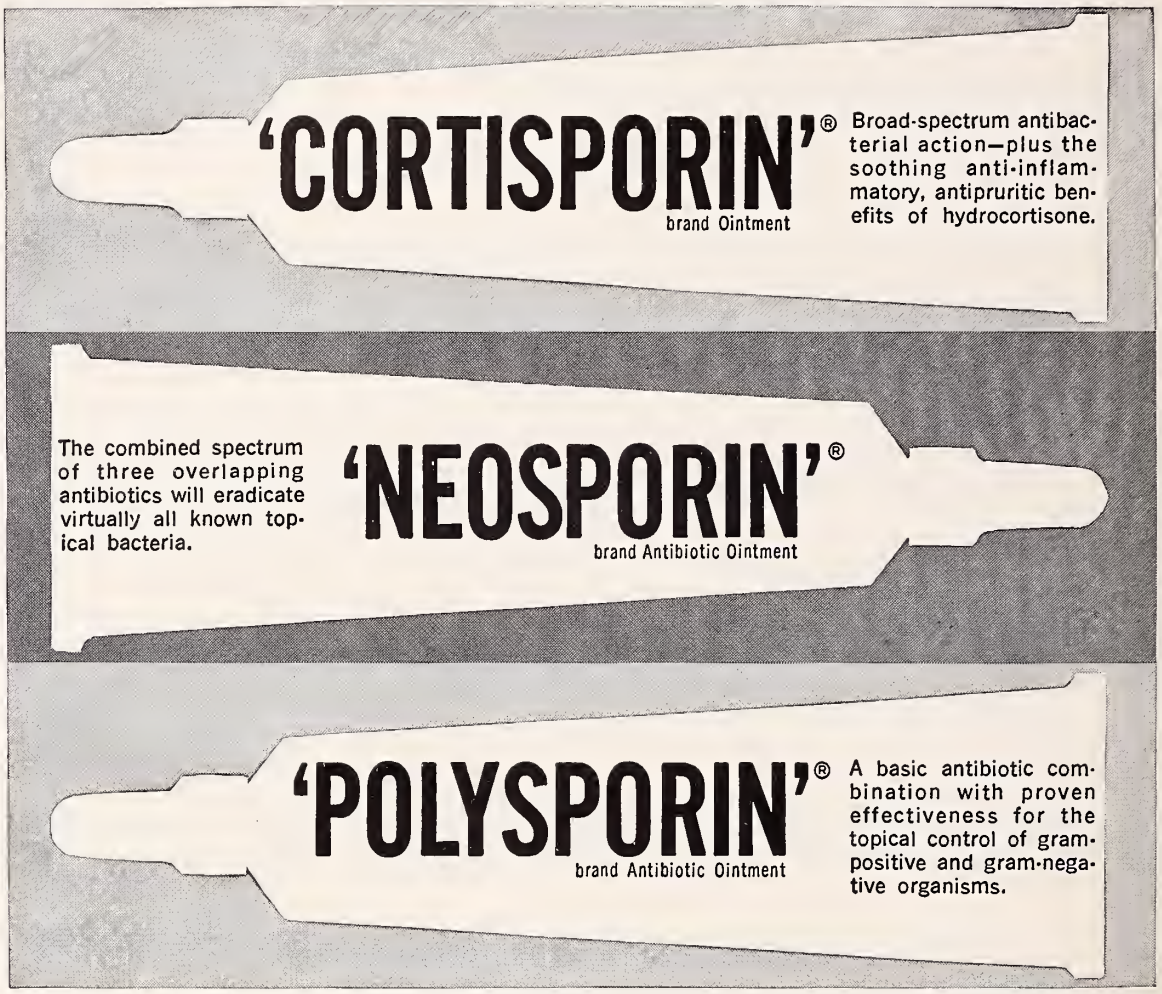
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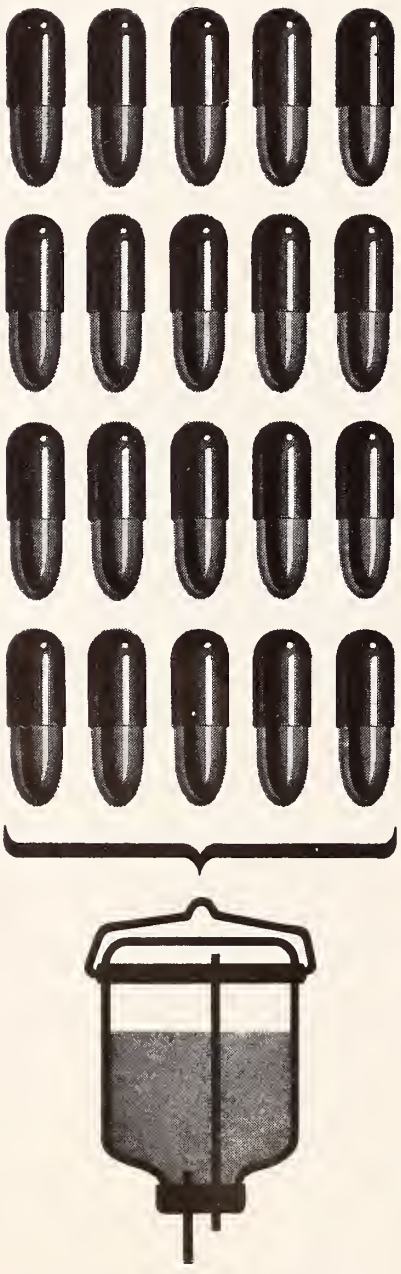
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Arizona Medicine

August, 1961 Vol. 18, No. 8

Modern Management of Endometriosis

J. G. Moore, M.D.

The incidence, pathology, pathogenesis, symptoms and clinical findings of the disease is divided into (a) symptomatic; (b) suppression of ovulation and suppression of menstruation by estrogens, progestins, or androgens; (c) conservative and "radical" surgery and (d) occasionally irradiation.

ENDOMETRIOSIS is an intriguing disease. Its symptomatology is varied and inconstant, bearing little relationship to the extent of the disease. Its pathogenesis can be explained quite plausibly in a given case, but the absence of the process in exactly clinically similar situations is baffling. The importance of endometriosis as a clinical entity is attested by its high incidence, by its disabling symptoms, by its relationship to infertility, by its close dependence on ovarian function, and the surgical difficulties that it presents. The not infrequent necessity of castrating the patient in the course of therapy is distressing.

Fortunately endometriosis is usually not a disabling disease. Years may pass without progression of the lesions. The condition is usually responsive to suppressive measures and most gratifyingly it regresses after the menopause. In order to best utilize the modern measures of suppressive therapy with ovarian conservation, it is necessary to fully understand the incidence, symptomology, and pathogenesis of endometriosis.

Presented at the Arizona Chapter of the American College of Surgeons' Fall Clinical Congress, Tucson, November 16, 1960.
From the Department of Obstetrics and Gynecology, UCLA Medical School, Los Angeles 24, California.

INCIDENCE

Endometriosis is usually diagnosed in the unmarried career woman in her mid-thirties. Occasionally she is married, but if so, she usually is in a respectable financial bracket and has not borne children. She is often tense and inclined to worry. These are your most substantial private patients. Various series indicate that 10 to 30 per cent of private patients coming to laparotomy will have endometriosis.

By contrast, the unworried, somewhat obese, indigent mother of many children will seldom develop endometriosis. On the indigent services only 1 to 2 per cent of pelvic laparotomies will uncover endometriosis.

Endometriosis usually becomes symptomatic in the thirties. However, it may occur from the

early twenties up to the menopause. Three years ago we had in our clinic a 17-year-old patient with an obstructive lesion involving the rectosigmoid segment of the colon. Most patients, however, are diagnosed in the fourth decade of life.

PATHOLOGY

Endometriosis in the strict sense is endometriosis externa as opposed to endometriosis interna which is more properly designated adenomyosis. Adenomyosis presents an entirely different picture when viewed histologically. It represents a process in which the basal layers of endometrium extend deep into the myometrium. These patients may have a somewhat enlarged, boggy uterus and are frequently troubled with menorrhagia and dysmenorrhea. Most often adenomyosis is asymptomatic.

The process of endometriosis results in growing foci of endometrial tissue found largely on the ovaries and peritoneal surfaces of the pelvis. These ectopic sites of endometrial growth can, but rarely do, occur in many other areas of the body as will be seen below.

PATHOGENESIS

Few processes of medicine have intrigued gynecologists quite so much as the pathogenesis of endometriosis. Early it was felt that endometriosis represented the growth of cell rests coming from the Mullerian duct (W. W. Russell) or from the Wolffian duct (Von Recklinghausen). This view is held unlikely at present.

In 1921 Sampson popularized the theory of implantation of endometrium transplanted to the abdominal cavity by the process of retrograde flow along the uterine tubes. Since desquamated endometrium has been shown to be viable in tissue culture and in the abdominal wall, since the tubes are usually open in endometriosis and since Scott and his group have demonstrated the devolpment of endometriosis in monkeys during intraperitoneal menstrual fistulae, this theory has gained much acceptance.

Robert Meyer proposed the process of metaplasia of the coelamic epithelium to endometriosis. Attempts have been made to reproduce this mechanism with no success. It is true, however, that failure to reproduce it experimentally does not eliminate it as a possibility.

Halban suggested dissemination of endometrial fragments by way of the lymphatics. In recent years Javert has demonstrated ectopic endometrium in pelvic lymph nodes. It has also been observed in a greater degree, experimentally in monkeys.

The present evidence would favor the implentation of viable endometrial fragments to the peritoneum by retrograde tubal passage with additional vascular (largely lymphatic) spread to various distant areas. One can logically accept the vascular spread of endometrium by transpulmonic spread or by vascular spread along vertebral veins. The latter would explain endometriosis in such rare and unlikely sites as the thigh and the forearm.

SYMPTOMS

The symptoms of endometriosis are extremely variable and their presence, absence or severity bears a somewhat casual relationship to the extent of the process. Table I indicates these symptoms in order of clinical importance.

TABLE I

Secondary Dysmenorrhea
Menstrual Aberration
Premenstrual Tension
Dyspareunia
Pain at Defecation
Associated Infertility
Premenstrual Mastalgia
Backache

Very often the patient with the minimal extent of the endometriosis has the most disabling symptoms. It is difficult to eliminate the situational or psychosomatic aspects of such a patient's symptoms. In other instances an extremely extensive case of endometriosis may be uncovered at an operation undertaken for large asymptomatic masses. Dyspareunia and pain on defecation are related to the extremely tender nature of the endometriotic implants, especially in the cul de sac. Menstrual aberrations may vary from menorrhagia to ammenorrhea, but in most cases there is prolonged spotting of dark blood between periods. This blood presumably is escaping slowly from the abdomen through the tubes and uterus to the vagina.

Dysmenorrhea is largely of the type which follows ovulation and is associated with distressing menstrual molimina. The latter are disconcerting and frequently associated with endometrio-

sis. They take the form of premenstrual tension, weight gain (fluid retention), headaches, and mastalgia. The dysmenorrhea along with the associated molimina are of the secondary type coming on in the twenties or thirties.

The association of endometriosis with infertility presents an uncertain correlation. It is true that the nulliparous woman has more endometriosis. However, she is not necessarily infertile *because* of the endometriosis. It is just as likely that she has endometriosis with nulliparity representing one of the associated causative factors. Women with endometriosis do ovulate and usually have open tubes and they not infrequently become pregnant.

FINDINGS

The characteristic finding of early endometriosis is tender scarring in the cul de sac and along the uterosacral ligaments. Usually, there is restricted mobility of the uterus and it may be the site of a fixed retroversion. Many used to feel that a retroverted uterus was conducive to the development of endometriosis and this may well be true. It does not seem so obvious today and the retroverted uterus is less worrisome to us now. In the presence of endometriosis the retroversion is more likely to become fixed in the cul de sac and very tender. In such cases pelvic congestion and dyspareunia are more of a problem. Occasionally endometrial implants are found on the cervix and in the vagina. They usually occur as small blue cysts but often present as non-specific ulcerative lesions.

At operation endometriosis may vary from large well encapsulated cysts, or diffusely distributed small chocolate cysts, to small peritoneal implants on the pelvic peritoneal surfaces. The small implants have the characteristic black puckered appearance of powder burns. As the endometriotic cysts are incised the syrupy fluid that is released represents hemolyzed and inspissated blood, whether the fluid is "chocolate" brown or "crankcase oil" black.

MANAGEMENT

The management of the patient varies greatly because of the wide limits of the process and the varying symptomatology. Such clinical features as vaginal bleeding or infertility necessarily modifies the treatment. Table II outlines the usual sequence of therapeutic measures employed in endometriosis.

TABLE II
Management of Endometriosis

1. Symptomatic
2. Hormonal Measures
 - Pregnancy
 - Estrogens
 - Progestins
 - Andogens
3. Operative Measures
 - Cauterize Implants
 - Resect Cysts
 - Uterine Suspension
 - Presacral Neurectomy
 - Uterosacral Section
 - Hysterectomy
 - Hysterectomy and Oophorectomy
4. Irradiation

SYMPTOMATIC MANAGEMENT

The great majority of women with minimal degrees of endometriosis can be managed expectantly. In these cases the diagnosis is usually presumed from the characteristic symptoms and findings. Naturally if the patient has definite pelvic masses the diagnosis must be documented by exploration. Therapy in these patients is discussed below. However, in the absence of sizable pelvic masses and with the diagnosis presumed from the symptomatology and the finding of tender scars in the cul de sac, a period of observation and symptomatic management is perfectly logical.

A thorough explanation of the presumptive diagnosis, assurance, and mild analgesia will carry most women with endometriosis. If they are nulliparous and young, they are encouraged to get on with their family (i.e. have children). In the group in their late thirties the explanation of the incidence and assurance of the unlikelihood of the process extending is emphasized.

Very often the dysmenorrhea and premenstrual tension is sufficiently severe to require treatment. Chlorothiazide 500 mg. daily for 5 or 10 days prior to the expected period is of considerable help in avoiding the fluid retention associated with premenstrual tension. A mood elevator such as the various dextroamphetamine and barbiturate mixtures is particularly effective for this condition. Tranquilizers may be of value in some cases.

SUPPRESSION OF OVULATION

When the dysmenorrhea does not respond to mild analgesics, it may be necessary to suppress

ovulation. Anovulatory menstruation is surprisinly free of menstrual cramps. Ovulation may be suppressed by estrogens, progestins, or androgens. Usually 1 mg. stilbestrol each day for 21 days and then skipping seven days of treatment is sufficient to provide an anovulatory cycle (i.e. suppress ovulation). Withdrawal bleeding comparable to menstruation should occur during the week without medication. On subsequent cycles it may be necessary to increase the daily dose up to 3 mg. stilbestrol in order to keep ovulation from breaking through. It should always be given on a cyclic basis with three weeks of medication and one week of withdrawal in order to mimic the menstrual cycle and to allow a predictable period of withdrawal bleeding each month. This method of providing symptom-free periods naturally would seem to allow withdrawal bleeding from the endometriotic sites as well as from the normal endometrium and is subject to objection on this ground. Obviously suppressing ovulation is not logical for infertility patients with endometriosis. It has the more urgent objection in many cases of not thoroughly relieving the symptoms.

If suppressing ovulation by cyclic stilbestrol proves to be unsatisfactory, 19-norethynodrel (Enovid) or norethindrone (Norlutin) in 10 mg. doses in the same cyclic fashion (21/7 days) frequently is effective, but these progestins are much more expensive.

SUPPRESSION OF MENSTRUATION

In some patients it may be indicated to suppress menstruation completely and presumably suppress growth of the endometriotic implants. These are the patients in the following categories:

1. Patients with severe symptoms but findings which are insufficient to warrant laparotomy for endometriosis.
2. Patients with proven diagnosis with progression of the process.
3. Poor surgical risks.

Menstruation is suppressed by giving increasing doses of 19-norethynodrel or norethindrone. Usually the former (Enovid) is given orally according to the regimen of 10 mg. daily for 10 days, 20 mg. daily for the next 10 days, 30 mg. daily for the next 10 weeks, and 40 mg. daily thereafter until the 24th week of therapy. This highly potent progestin brings about a marked decidual effect with thrombosis and necrosis of the endometrium.

Though this pseudopregnancy state is maintained for only six months, there is a persistence of the beneficial effects for varying periods of time thereafter. The reported series have varied in their enthusiasm, but lasting beneficial results up to as high as 85 per cent are claimed. No one would disagree that a normal pregnancy would be more appropriate therapy under the proper circumstances.

The main disconcerting side-effect of therapy with the potent progestins is nausea. Occasionally it is quite upsetting early in the pseudopregnancy (just as in true pregnancy), but it becomes quite tolerable later on. Break-through bleeding often occurs from 20 to 120 days, but it is seldom a problem. Occasionally, following the withdrawal of medication, the first period will be associated with the passage of an endometrial cast and the process may be accompanied by cramps.

Karneky proposed the suppression of menses (and endometrial bleeding) by the administration of increasing doses of estrogens. Menstruation is therewith delayed for three to nine months as the original 1 mg. dose of stilbestrol is increased up to 100 mg. orally per day as is necessary to delay menstruation. The use of this medication though less expensive is less logical since instead of bringing about endometrial necrosis, endometrial hyperplasia is actually produced. Break-through bleeding is quite common, occasionally with serious hemorrhage.

Androgens have a very beneficial symptomatic and suppressive effect on endometriosis even though menstruation is not suppressed. Usually 10 mg. per day of methyltestosterone orally is the desired dose, but the amount must be titrated in each patient. Occasionally side effects of hirsutism and acne or increased libido prevent its continued use. In other cases it has been used effectively for years. It has most value in the patients with severe symptomatology and minimal physical findings.

The most attractive feature of the medical management of endometriosis is that it allows a

substantial relief from symptoms and may halt the progression of the process while ovarian function and pregnancy potential is preserved. It has its most valuable place in treatment with recurrence of symptoms or progress of the endometriosis after conservative surgery.

SURGICAL MANAGEMENT

It seems only logical that abdominal exploration should be done to confirm the presumptive diagnosis when pelvic masses are present. Ovarian cancer must be ruled out and early surgery for endometriosis of restricted extent is entirely logical. Surgical measures which remove the endometriosis and preserve ovarian function is extremely important in young women and is entirely successful in a large percentage of the cases. Surgery also puts the subsequent medical-suppression management of endometriosis on a sound basis.

Occasionally the young woman with restricted physical findings but with maximal and disabling symptoms is best served by surgery. A dilatation and curettage should be done initially to rule out local causes of metrorrhagia and dysmenorrhea. On exploration, resection of endometriotic cysts from the ovary, cauterization or resection of peritoneal implants, uterine suspension and presacral neurectomy (with severe dysmenorrhea) can be carried out with considerable benefit. Very often the patient with severe intractable dysmenorrhea will prove to have endometriosis as a surprise finding.

If the patient has sizable (7-12 cm.) pelvic masses, exploration is mandatory to rule out an ovarian neoplasm. If the woman is less than 35, every effort should be made to resect the endometriosis and preserve ovarian function. Some feel that hysterectomy will do much to suppress endometriosis when the ovaries are left after the resection of endometriotic cysts. If the woman is over 35 or 40 consideration should be given to a complete operation with removal of the ovaries, tubes, and uterus. If portions of endometriosis cannot be removed in these women and fragments are left behind, estrogens for the resulting menopausal symptoms should be prescribed with caution.

A point of considerable importance to the surgeon involves the young woman yet to bear children. Very extensive dissection and wide ovarian resections can be carried out and pregnancies may and do result from a small shell of ovary.

LATER THERAPY

If the endometriosis progresses following conservative surgery, medical suppressive therapy or even reoperation is worthwhile in an effort to preserve ovarian activity and childbearing function. If the woman is past 35, the second operation should probably be complete. In the woman past 45, whose endometriosis progresses following surgery, irradiation castration would appear to be in order. Either 1000 roentgens of external lower abdominal irradiation or 1500 milligram hours of intracavitary uterine radium will suffice. It should be emphasized that relatively few women will fall into this group.

SUMMARY OF MANAGEMENT

1. Most patients with minimal or restricted degrees of endometriosis will respond to symptomatic treatment.

2. Suppression of ovulation by estrogens or the high-potency progestins is effective in controlling dysmenorrhea when necessary. Androgens also are often effective in controlling the symptoms of endometriosis.

3. Patients with moderately extensive endometriosis should be subjected to exploration for purposes of diagnosis and conservative, definitive surgery.

4. If endometriosis progresses following surgery or if symptomatic treatment is unsuccessful, suppression therapy — pseudopregnancy with the high potency progestins — is often effective and may provide lasting benefits.

5. If endometriosis recurs and progresses in spite of medical suppression therapy after the age of 35 years, complete surgery with hysterectomy and ovarian ablation may be indicated. In the rare patient in whom the process recurs and progresses after the age of 45, irradiation castration is in order.

6. Endometriosis is not a problem after the menopause unless stimulated by exogenous estrogens.

The Safety of Milk Supplies

Hugh H. Smith, M.D., M.P.H.

"OF ALL THE foods available to man probably none is of such great importance as milk. Milk, if clean and fresh, has been described as the most nearly perfect food. Its very excellence as a food, and its extensive use, especially for children, make it necessary for sanitarians to exhibit an unusual interest in its quality — partly because of its value in human nutrition, but equally because of its intimate relationship to the public health. For among all the vehicles of disease there is perhaps none more potentially dangerous to man than infected milk. This fact, based upon the scientific discoveries in bacteriology during the past 40 years, is one of the outstanding sanitary conclusions established during this period. Nevertheless, even today, this important relationship between dirty and contaminated milk and possible disease is not recognized as universally as should be the case. Perhaps this is in part because milk has always been one of the most trusted of human foods. Of high repute for easy digestibility; believed to represent in perfection a natural dietary; in general, popular and cheap — milk has always deservedly held a high place in the public esteem. On the other hand, as informed physicians and sanitarians will testify, the use of raw milk has been associated altogether too frequently with diseases of the epidemic type; and in spite of its excellent reputation as a cheap and valuable food, increasing attention has been directed toward the problem of making milk a safe food for human consumption."(1)

The first milk epidemic of which there is any record was reported by Dr. M. W. Taylor in the year 1857. This was a typhoid fever epidemic in the city of Penrith, England. Of course, milk had often been the cause of epidemics before that time, but no definite knowledge of the relationship of milk to human disease was easy to demonstrate until the early bacteriologists had discovered the causes of such infections. In 1881, Dr. E. Hart, of England, published a large list of some 50 milk epidemics in which were included typhoid fever, scarlet fever and diphtheria.(2)

The invention of Babcock, in 1890, of a simple and accurate method for determining the percentage of butter fat in milk resulted in a marked up-grading of the standards of the dairy industry. Thus buyers were enabled to avoid the purchase of watered milk. Another great epoch began in 1892 when the Newark (N.J.) Medical Milk Commission was established. This group led the movement toward "certified" milk, from which grew the principles of dairy sanitation, bacterial testing and bacterial standards that have had ever since that time a most profound and far-reaching influence on every branch of the milk industry.(2)

Between 1892 and 1906, 27 medical milk commissions were organized in the largest cities of the USA, and in 1907 a National Association of Milk Commissions adopted uniform standards for dairy certification. During this same period commercial pasteurization of milk by the flash method began to be used to a small extent.(3)

The work of Rosenau, in 1906, was important for the establishment of the thermal death points of pathogenic bacteria and on the temperatures necessary for the proper pasteurization of milk. This led to the development of suitable types of apparatus for large scale pasteurization of milk by the holding method, i.e., 143° F. for 30 minutes.

In 1908, the city of Chicago adopted the first ordinance requiring the pasteurization of all milk excepting that of the very highest sanitary quality. Since that time there has been a steadily growing conviction throughout the United States that the pasteurization of milk is a necessary

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measure for the protection of the health of the public.

As the populations of cities began to increase, the milk-producing areas have tended to recede from the centers of population. This has led to a greater degree of bulking the milk at the source of supply, the indifferent milk often being mixed with the good. It can be said in truth that all large bulks of raw milk are potentially dangerous to the consumer. In the face of such situations there is now no doubt that pasteurization of milk has become a prime social necessity. Without pasteurization it would be difficult to provide large urban populations with sweet milk at economic prices.

DISEASES SPREAD BY MILK

The diseases conveyed by milk are: tuberculosis, typhoid and para-typhoid fevers, gastroenteritis or food poisoning, diphtheria, streptococcal infections (scarlet fever and septic sore throat), brucellosis, foot and mouth disease, Q fever and milk sickness; also some of the summer diarrheas of children. Poliomyelitis may rarely be milk borne.

Milk becomes infected from human sources, usually on the farm, sometimes at the milk plant, occasionally in transportation, and rarely in the household of the consumer. Sometimes the milk becomes infected as a result of disease of the animal, as in the case of bovine tuberculosis, brucellosis, Q fever and others. Furthermore, cows' udders may become infected with human pathogens, particularly the types of streptococci responsible for sore throats and scarlet fever.

Milk-borne outbreaks of disease are nearly always due to raw milk, often milk of good quality, even certified milk. A few outbreaks have been traced to milk labeled as pasteurized which either has not been pasteurized at all, was grossly under-pasteurized or was contaminated after pasteurization with raw milk or with pathogens from cases or carriers. There is no record of a milk-borne outbreak attributable to properly pasteurized milk.

Between the years 1907 and 1948, approximately 750 milk-borne outbreaks of typhoid fever, diphtheria and streptococcal infections were reported in the United States. These involved some 33,500 individuals. Surveys conducted in some states indicate that dozens of other milk-borne epidemics unreported to health departments probably occured during this period. It is gratifying to note that with the rapid extension of the program for sanitation of milk supplies throughout the country, the number of disease outbreaks attributable to milk has declined sharply beginning about the time of World War II.

Feemster reporting on milk-borne disease in Massachusetts for the period 1946-1950(5) states that during this time approximately 99 percent of all milk consumed in the state was pasteurized. No outbreaks of important milk-borne disease occurred in Massachusetts during that five-year period.

PASTEURIZATION

Pasteurization is advocated because milk is likely to convey the organisms responsible for a number of infections harmful to man. Pasteurization effectively prevents this hazard. It is the simplest, cheapest, least objectionable and most trustworthy method of rendering infected milk safe. Next to water purification, pasteurization is the most important single preventive measure in the field of sanitation. (4)

The pasteurization of milk supplies is not proposed as a substitute for, but as an adjunct to, sanitation and good dairy practice. Health department inspectors are essential to ensure for the public a clean,safe dairy product of high quality. The most direct way to measure the effectiveness of routine pasteurization plants is by making bacteriological, biochemical and chemical tests on surprise samples of the finished products as offered to the public for consumption. The discerning use of field and laboratory tests supplemented by sanitary inspections is most likely to result in effective control.

LEGISLATION FOR MILK CONTROL

In the United States, the authority for sanitary control of milk is vested in the states except where interstate commerce is involved. This authority is derived from the "police powers" of the states to protect the health and welfare of their citizens. In many states, by legislative act, authority for protection of public health, including sanitary control of milk, has been delegated to municipalities and other local jurisdictions. Experience has shown that local supervision is the

best method of exercising sanitary control over milk and milk products.

One of the first states to recognize the need for uniformity of regulations for the control of milk was Alabama. In 1923, that state requested the United States Public Health Service to cooperate with her State Health Department in the formulation of a state-wide milk program. As a result of the activities of these two cooperating agencies, a standard milk ordinance was elaborated. Since that time the ordinance has been changed and revised many times to keep pace with new developments and technological improvements in the handling and processing of milk; all revisions are acted upon by a board of consutlants, first appointed about 1932 and now known as the Public Health Service Sanitation Advisory Board. This Standard Milk Ordinance has done much to guide the thinking of milk sanitarians. However, the need for uniformity in milk control legislation is still apparent. Too many communities are attempting to regulate the purity of milk supplies with old and out-moded ordinances which fail to emphasize essentials or place undue stress upon requirements of little proved value.

At the present time the milk ordinance and code recommended by the USPHS serves as a basis for regulations in 36 states and has been voluntarily adopted by over 1900 countries and municipalities throughout the United States.(6)

The pasteurization of milk has had wide acceptance in this country and is directly responsible for the excellent control of milk-borne diseases. It is estimated by the USPHS that 90 percent of all the milk consumed by the urban population is heat treated. Although the figures for our rural population are not available, it is well known that pasteurized milk is sold in the rural areas in ever-increasing amounts. In spite of this progress, there is still an alarming amount of raw milk being consumed daily throughout the nation.

MILK IN ARIZONA

In the early days of this century outbreaks of milk-borne disease were common in Arizona. With the establishment of the State Laboratory in 1912, control over milk supplies was tightened, as health officers and sanitary inspectors started a program of sampling and testing. The first recorded outbreak of Malta Fever in the United States occured in Phoenix in 1922. A herd of milk goats was brought to the city for the purpose of selling goats' milk. Cases of an unknown fever kept occuring over a period of months until finally a definite diagnosis of undulant fever was made. The sale of goats' milk was then prohibited.(7)

In addition to the well known communicable threats that are prevalent among Arizona milk cattle, a new danger has recently been discovered, that of Q fever, caused by a rickettsial agent.(8) (9) In some of the herds tested for Q fever immunity, as high as 60 percent show a positive reaction indicating previous infection with the agent of Q fever. This serious type of infection may be transmitted to man by the consumption of infected raw milk.

In 1927, Arizona, with the cooperation of the United States Public Health Service, launched a program of milk control. As a result, seventeen cities and towns of the state adopted the USPHS Standard Milk Ordinance and Code.

In 1956, the legislature made the provisions of the USPHS Milk Ordinance and Code applicable for all of Arizona. Unfortunately, at the same time another article in the law expressly declared that the sale of raw milk is legal in this state. Although the sale of unpasteurized milk in Arizona is known to be small, especially in the urban areas, the potential hazard to the public health still exists and ought to be eliminated by legislative action.

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What to Expect From Public Health in the 60's

Clarence G. Salsbury, M.D.

In this essay the Commissioner briefly reviews the history of Public Health efforts and in particular their influence in the United States and Great Britain. The author quotes C. E. A. Winslow, the father of the birthright concept of personal health, and then at some length describes the projected domains of Public Health as promulgated by Dr. John J. Hanlon, Professor of Preventive Medicine, Temple University. Some of our critical readers may question the need for governmental excursions into one or another of these domains and for reasons quite apart from the hoary plaint about "invasion of private practice". In the fields of chronic disease, and particularly those of genetic origin, the question will arise as to the advisability of spending public monies for the detection of cases of inborn metabolic error, the only cure for which, in behalf of Public Health, is the sterilization of the individual who bears the gene of defection. Are we in the Americas culturally and philosophically prepared to undertake such a "cure"?

ABOVE THE Hall of Records in Washington, D. C. appears this legend "The past is but prologue."

Perhaps before we predict the course of Public Health in the 60's it would be well for us to look briefly at the past and present trends in community health care.

In doing this we bring into better perspeetive the problems that have been met and conquered in the past. Then, too, looking at the recent important advanees in Public Health practice gives us courage to face the new challenges of tomorrow.

Measures for the preservation of health and the prevention of disease are almost as old as eivilization itself.

Thousands of years before Christ, the Cretans and others had advanced to the point where they constructed drainage systems, water closets and water flushing systems. The Egyptians 1,000 B.C. were described as the healthiest of all eivilized nations. They too had a keen sense of personal cleanliness and various community projects for protection of their water supply as well as provision for sewage disposal.

The Grecian civilization was noted for its emphasis on personal cleanliness, exercise and dietetics, but paid scant attention to environmental sanitation.

The Roman Empire was noted for its engineering and administrative achievements. There were laws requiring the registration of citizens and slaves, prediodic census taking, establishment of a building code, supervision of weights and measures, bars and taverns and houses of prostitution. Extensive public sanitation pro-

Presented at the Fifth Annual Meeting of the Medical Society of the United States and Mexico, Guadalajara, November 10, 1960.
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grams were put in operation as is evidenced by the fact that a number of the aqueducts and subsurface drains of that period are still in use today. Paving and street cleaning and garbage disposal were also innovations of this period.

With the advent of the Christian era, strong reaction developed against anything reminiscent of the then decadent Roman Empire. The attitude of the early Christians was that the Romans and Grecians had paid too much heed to the body and too little to the spiritual. This reaction was so intense that there was even opposition toward sanitation and personal hygiene.

People rarely bathed. It has been said that the use of perfume came into its heyday at this time since it was used instead of bathing. Sanitation deteriorated to the point where it was almost non-existent.

Such neglect naturally resulted in the great pandemics of the dark ages. It was only natural that smallpox, bubonic plague, diphtheria, leprosy, venereal disease and tuberculosis literally sent many millions of victims of their deaths.

Following this long period of death and destruction there began to develop slowly but surely an awakening of the need for community and state action to halt the gradual but sure liquidation of the so-called civilized people of that era.

Legally, Public Health went unrecognized even in England until 1837 when the first sanitary legislation was enacted establishing a Vaccination Board and appropriating 2,000 pounds to implement the program. This act was followed rapidly by others and it was not long until, as mentioned in Dorothy George's report, " . . . pride was based on real achievements, which had an undoubted effect on the health of the town, and in which London was a pioneer among large cities. The foot pavements, the lamps, the water supply, the fire plugs, the new sewers, defective enough by modern standards, were admired by all . . . The intelligent foreigner cannot fail to take notice of these useful particulars which are almost peculiar to London."

It was only natural that the new gospel of sanitation and hygiene should spread to Colonial America. Dr. Henry I. Bowditch in an address before the International Congress in Philadelphia in 1876 said, "But by far the greatest influence has been exerted on us in America by England who by her unbounded pecuniary sacrifices and steady improvement in her legislation and her able writers has far outstripped any country in the world in the direction of state preventive medicine . . . The consumate skill in the discovery, removal and prevention of whatever may be prejudicial to the public health, shown under the admirable direction of Mr. Simon, late medical officer of England's Privy Council, by his corps of trained inspectors is wholly unequalled at the present day, and unprecedented I suspect in all past time in any country on the globe."

Although Louisiana set up a board or commission in 1855 to deal with quarantine matters in the port of New Orleans, the first Board of Health in the United States was established in Massachusetts in 1869, just 91 years ago. Thus, while there were sporadic attempts in various communities to set up measures for control of emergencies, we see that organized Public Health as we think of it today is less than 100 years old.

The first full-time county health departments were established 50 years ago.

So today within the life span of many of us, we have witnessed, if not the birth, certainly the early development and growing pains of nationwide public health programs.

What is Public Health today and what are its functions? Perhaps we can do no better than accept Winslow's definition which follows:

PUBLIC HEALTH

is

the science and art

Of

1. Preventing disease
2. Prolonging life
3. Promoting health and efficiency

Through

Organized Community effort

For

1. Sanitation of the environment
2. Control of communicable infections
3. The education of the individual in personal hygiene
4. The organization of nursing and medical services for the early diagnosis and preventive treatment of disease and
5. The development of the social machinery to insure everyone a standard of living adequate for the maintenance of health

So organizing these benefits as to enable every citizen to realize his birthright of health and longevity.

Another definition of Public Health is that given by the American Medical Association which says "it is the art and science of maintaining, protecting and improving the health of the people through organized community effort. It includes the arrangements whereby the community provides medical services for special groups of persons and is concerned with the prevention or control of disease with persons requiring hospitalization to protect the community, and with the medically indigent."

As pointed out by Hanlon, "In summary therefore there is evidence from the definitions themselves a gradual extension of the borders of public health. In conformity with the advances of medical and scientific knowledge and keeping pace with social and political progress, public health work has expanded from its humble concern with gross environmental sanitation to add in sequence sanitary engineering, preventive physical medical science, social science, preventive medical mental science, and more recently the positive or promotive and social aspects of personal medicine."

Again quoting from Hanlon on the scope of Public Health, he says, "What then are the justifiable fields of activity in public health? In view of the foregoing definition they may be considered to fall potentially into four categories:

1. Those fields where activity must be on a community basis such as the supervision of the food, water and milk supplies of a community; insect control; prevention of atmospheric and stream pollution.

2. Those fields dealing with preventable illnesses, disabilities or premature deaths:

 a. Communicable disease including infestations
 b. Dietary deficiences
 c. Effects of drugs and narcotics habitually used
 d. Allergic manifestations and their community sources
 e. Certain mental personality and behavior disorders
 f. Occupational health
 g. Cancer (primarily avoidance of progression; prevention to some degree)
 h. Cardiovascular diseases
 i. Conditions associated with the risks of maternity, growth, and development
 j. Certain hereditary conditions
 k. Home, community and industrial accidents
 l. Rehabilitations of victims of accident and disease
 m. Dental caries

3. Those fields of medicine which need organized official leadership.

4. Research — no health department can ignore scientific investigation and evaluation and remain progressive.

Surely with such an outline of the responsibilities of public health as indicated above it should be evident that there needs to be the widest dissemination of information to inform the public of the aims and objectives of local, state and Federal public health programs so that they may cooperate fully in making the best use of the services that are provided for their health protection.

Of equal or perhaps of even greater importance is a better understanding and closer cooperation between the private physician and public health.

Through the years I have been engaged in public health I have been aware at times of a concern on the part of some private practitioners that our State health program might be invading the domain of private medicine.

Except in the treatment of tuberculosis we carry on no curative program.

In our detection programs we know we have uncovered many new cases of syphilis, tuberculosis, diabetes and glaucoma. In every instance these suspected cases are referred to their private physician or to a county clinic for final diagnosis and treatment. We believe such efforts are the best type of health education, and that far from invading the private physician's practice it actually supplies him with many new patients, a percentage of which, if they had not been discovered, would have become permanent invalids, and in many cases no doubt an extra burden on the taxpayer.

In Arizona we have been most fortunate in having strong support from our State Medical and Dental Associations, as well as a number of influential voluntary agencies.

If we are to attain our greatest potential in the 60's the bond between private medicine and public health must be even closer than in the past because neither can function at its best without the other. Just as concepts of public health have changed so radically in the last five or six decades, so may we expect even newer and greater challenges for us in the next decade. To mention only a few of the problems knocking at our door today we might note:

1. Care of the rapidly increasing aged population
2. Care of chronic disease
3. The increasing toll from traffic accidents
4. Radiation and fall out
5. Diseases of genetic origin
6. Air conditioning and forced ventilation systems have changed our environment at home, in the office and even in our cars
7. Jet travel and space travel will also bring new problems
8. New construction methods will involve constant revisions of our ideas about sanitary facilities in these structures.
9. The increasing use of spray and dust pesticides is a constant menace to health unless done under proper conditions.

Dixon says "To adjust to these (new) changing community patterns as far as the official health agencies are concerned, requires a slight redefinition of the responsibility of the public health agency. We can still safely say that a local public health unit must still be concerned with the basic 6 or 7 services, but I believe the community will expect that its agency will take public leadership in meeting any health problem which the community desires to have solved by government. This means it will be necessary to strengthen the competence in public administration of health agencies and to modify professional health concepts by community opinion."

It will be interesting in 1970 to open the book and turn back the leaves to see how well we have met the challenges of the 60's.

ARIZONA STATE PSYCHOLOGICAL ASSOCIATION

The Board of Examiners of the Arizona State Psychological Association has recently published a directory of psychologists in private practice certified by the board. If you wish a copy please write to Dr. William F. Hall, secretary-treasurer, BE, ASPA, 125 E. Lincoln St., Phoenix, Ariz.

Que Esperar de Salubridad Publica en la Decada del 60

C. G. Salsbury, M.D.

SOBRE LA puerta de la sala de Estadísticas en Washington D. C. aparece esta frase: "El pasado no es mas que el prólogo."

Tal vez antes de predecir el curso de la salud pública en la década del 60, sería bueno revisarlo brevemente en lo que respecta a su pasado y presente, acerca del cuidado de la salud de la comunidad.

Haciendo ésto tenemos una mejor perspective de los problemas que se han encontrado y conquistado en el pasado. Además, viendo los recientes adelantos mas importantes en la práctica de la salud publica nos da valor para enfrentarnos a los desfíos del mañana.

Tan viejos como la civilización misma, son las medidas para la preservacion de la salud y prevencion de las enfermedades.

Miles de anos antes de Cristo, los Crétas y otros habían avanzado al punto de construir sistemas de drenaje, sanitarios y sistemas de agua corriente.

Los Egipcios 1,000 anos antes de Cristo fueron considerados como la nación civilizada más saludable, además tenían un agúdo sentido de la limpieza personal y varios proyectos comunales para la proteccion de su provisionamiento de agua, asi como para la depuración de las aguas negras.

La civilización griega era notoria por su limpieza personal, ejercicio y dieta, pero prestaban poca atención al ambiente sanitario. El imperio Romano fué notorio por su ingenieria y conquistas administrativas. Había leyes que exigían el registro de ciudadanos y esclavos, censos periódicos, establecieron el código de edificios. Supervisión de pesas y medidas, tabernas y cantinas, casas de prostitución.

Programas de lanzamiento se pusieron en práctica y la evidencia la tenemos en el hecho de que hoy día aun se encuentran en uso acueductos y drenajes superficiales de aquella época.

La limpieza de las calles, la pavimentación y el acarreo de basura, fueron inovación de ese período.

Con el advienimiento de era Cristiana, se desarrollo una fuerte reacción en contra cualquier reminisencia del entonces decadente Imperio Romano. La actitud de los primeros Cristianos era de que tanto los Griegos, como los Romanos, habían prestado mucha attención al cuerpo y muy poca a lo espiritual. Ésta reacción era tan intensa, que aun había oposición hacia la sanidad e higicne personal.

Las personas raramente se bañaban. Se ha dicho que el uso del perfume tuvo su mayor éxito en esta época.

La sanidad se deterioró al punto de que casi

Presentado en la junta de la Sociedad Medica de Los Estados Unidos y Mexico, Noviembre 10, 1960.

Anteriormente Comisionado del Departamento de Salud del Estado de Arizona.

ya no existía. Tal negligencia, naturalmente, dió como resultado el gran pandémico de la edad negra. Era lo mas natural que la viruela, la plaga bubónica, difteria, lepra, enfermedades venereas y la tuberculosis, literalmente mandara milliones de víctimas a la muerte.

Siguiendo este largo período de muerte y destrucción, comenzó a desarrollarse, despacio, pero con seguridad, el despertar hacia la necesidad de una comunidad, o estado, que tomara accion para impedir la gradual, pero segura liquidacion, de la tal gente civilizada de esa época. Legalmente la Salubridad Pública, estuvo sin reconocerse, aún en Inglaterra hasta el ano 1937, cuando la primera Legislación Sanitaria fué promulgada, estableciendo un Consejo de Vacunación, apropiandose de 2,000 libras para ejectutar el programa.

Este acto fué seguido rápidamente por otros y no tardo mucho tiempo, como se menciona en el reporte de Dorothy George's, "El orgullo fué basado en hazañas verdaderas, que tenían por resultado, en forma inequívoca, la salud del Pueblo, en el cual, Londres fué un pionero, entre las grandes ciudades. El pavimento para los peatones, las lámparas, el suministro de aguas, los hidrantes y los nuevos drenajes bastante defectuosos por las normas modernas, fueron admirados por todos. El extranjero inteligente, no puede menos que tomar nota de estos adelantos tan útiles, y que casi son peculiares de Londres.

Era natural que el evangelio de sanidad e higiene se extendiese a la América Colonial. El Dr. L. Bowditch al dirigirse ante el Congreso Internacional en Filadelfia en 1876 dijo:

La mayor influencia ha sido trasmitida a nosotros en América por Inglaterra, quien por su desenfrenado sacrificio pecuniario el progreso firme de su legislacion, asi como sus escritores capáces; le han valido, colocarse muy por encima, de cualquier nación en el mundo, en lo que respecta a la dirección, de la Medicina Preventiva del Estado.

La habilidad en el descubrimiento, eliminacion y prevención, de todo aquello que pudiera ser perjudicial para la Salud Pública, fué demostrado por la admirable direccion del Sr. Simon, ya finado Médico Oficial del Consejo Privaco de Inglaterra. Su cuerpo de inspectores entrenados, no ha sido hasta la fecha, igualado, sin precedente en mi opinion, en ningun país del globo terreste; Aunque Luisiana estabeció una Comision en 1855 para manejar asuntos de cuarentena en el puerto de Nueva Orleans. El primer Consejo de Salud en Los Estados Unidos fué establecido en Massachusetts, en 1869 apenas hace 91 anos. Así, mientras había atentados esporádicos en varias comunidades para establecer medidas en el control de emergencias. Nosotros, vemos que la Salubridad Pública Organizada, vista ahora por nosotros, es menos de 100 años de antiguedad. Los primeros Departamentos de Salud del Condado a tiempo completo, fueron establecidos hace 50 años.

Hoy día, en el curso de nuestra vida, muchos de nosotros hemos sido testigos, si nó del Nacimiento, seguramente del temprano desarrollo y el crecimiento en toda la nación, de los programas de Salubridad Publica.

¿Qué es la salud púbuica, y cuáles son sus funciones¿ Tal vez tengamos que aceptar la definición de Winslow como sigue:

LA SALUD PÜBLICA

es

La ciencia y el arte.

De

1. Prevencion de enferemedades.
2. prologacion de la vida.
3. Promover la salud y eficiencia.

Atraves de

1. Esfuerzo organizado de la comunidad.

Por

1. Sanamiento del medio.
2. Control de infeciones trasmisibles.
3. Educacion del individuo en higiene personal.
4. Organizacion de servicios medicos y enfermeria para el diagnostico temprano y tratamiento preventico de las enfermedades.
5. El desarrollo de la maquina social para asegurar a todo mundo un standard de vida adecuado para el mantenimiento de la salud.

Asi organizados estos servicios o beneficios, capacítan a cada ciudadano, para que realice su derecho innato de salud, y longividad.

Otra definición de Salud Pública es aquella dada por la Asociación Médica Americana que dice: "Es el arte y ciencia de mantener, protejer y mejorar la salud de las gentes, a traves del esfuerzo una comunidad organizada. Incluye, los arreglos por los cuales la Comunidad, provée de cervicios médicos, a un grupo especial de personas, y tiene que ver con la prevención, o el control de enfermedades que requieren hospitalización, para protejer la comunidad y a los médicamente indigentes.

Asi, como lo hizo notar, la Señorita Hanlon; "En Resumen hay, por lo tanto, evidencia por las mismas definiciones, un gradual aumento en los huéspedes de salubridad pública. De acuerdo con los avances de los conocimientos médicos y científicos al parejo del progreso politico y social, los trabajos de Salubridad Publica, se han extendido desde su humilde concepto, sobre saneamiento del medio a groso modo, hasta la adición en secuencia, de ingenerieria sanitaria, medicina fisico-medica preventiva, ciencia médica mental preventiva; y el más reciente aspecto social positivo, y de promoción de la medicina personal; nuevamente citando a la Señorita Hanlon, en el panorama de la Salud Pública. "¿Cuáles son entonces los terrenos de actividad en la Salud Pública¿ En vista de la presente definición caen potencialmente en cuatro categorías:

1. Los campos donde la actividad debe ser la base de la comunidad, como es la supervisión de alimentos, suministro de agua y de leche de la comunidad, control de insectos, prevención de la polulación en la atmósfera.

2. Aquellos campos, encargados de la prevención de enfermedades con desabilidades, o muerte prematura.

a. Enfermedades trasmisibles incluyendo infecciones.

b. Deficiencias dietéticas.

c. Efecto de drogas y narcóticos, habitualmente usados.

d. Manifestaciones alérgicas, y sus fuentes para la comunidad.

e. Ciertos desórdenes en la conducta mental y personal.

f. Salud ocupacional.

g. Cáncer (primeramente evitar su progreso, prevención hasta cierto grado).

h. Enfermedades cardiovasculares.

i. Condiciones asociadas con el riesgo de maternidad, crecimiento y desarrollo.

j. Ciertas condiciones hereditarias.

k. Accidentes industriales en la casa y en la comunidad.

l. Rehabilitación de víctimas por accidente, o enfermedad.

m. Caries dentales.

3. Aquellos campos de la medicina que necesitan una empresa organizada.

4. Investigación. Ningun departamento de salud puede ignorar la investigación científica, y evaluacion y llamarse próspero.

Seguramente, con tal delineamiento de responsabilidades, de salubridad pública como se ha mencionado arriba, es evidente que hay la necesidad, de una amplia diseminación de información al público, sobre las miras y objetivos de los programas de salubridad pública federal, estatal y local, para que ellos puedan cooperar, plenamente, haciendo uso de los servicios que se han establecido para la protección de su salud.

Por igual, o tal vez de mayor importancia, es el mejor entendimiento y cooperacion, entre el médico privado, y la salubridad pública. A traves de los años que he trabajado en salubridad pública, he observado que en ocasiones, hay el resentimiento de algunos médicos, porque nuestro programa estatal de salud está invadiendo el dominio de la medicina privada, excepto en el tratamiento de la tuberculosis donde no ofrecemos un programa de curación.

En nuestro programa de detección, hemos descubierto muchos nuevos casos de sífilis,

tuberculosis, diabetes y glaucoma; en cada caso son referidos al médico particular, o a la clinica del condado para su diagnóstico final y tratamiento. Creemos, que tales esfuerzos, son el mejor tipo de educación en salud, y lejos de invadir la práctica privada del médico, de hecho, le proporciona nuevos pacientes, porcentaje que, de no haber sido descubiertos, hubieran permanecido, permanentemente invalidos, y en muchos casos sin lugar a dudas, una carga para el contribuyente.

En Arizona, somos afortunados de tener un apoyo en nuestra Asociación Médica y Dental Estatal, asi como un número de agencias voluntarias influyentes si hemos de obtener nuestro mayor potencial en el 60.

La unión dentro de la Salubridad Pública debe ser mas estrecha que lo que fue en el pasado, porque ninguna puede funcionar a su máximo sin la otra. Así como los conceptos de salubridad pública han cambiado tan radicalmente en las últimas cinco o seis decadas, así debemos esperar mayores y nuevos desafíos en la próxima década. Para mencionar unicamente algunos de los pocos problemas, que hoy dia, estan a la puerta, podemos anotar:

1. El cuidado de la poblacion de ancianos que aumenta rápidamente.
2. Cuidado en enfermos crónicos.
3. El aumento de accidentes de trabajo.
4. Radiación y descarga.
5. Enfermedades de origen genético, los sistemas de aire acondicionado y ventilación forzada, han cambiado nuestro ambiente en casa, en la oficina y hasta en los automóviles. Los viajes al espacio y de propulsión acarrean nuevos problemas.
8. Nuevos métodos de construcción requiriran constante revisión de nuestras ideas, sobre facilidades sanitarias en éstas esestructuras.
9. El creciente uso de pulverizadores y germicidas es una constante amenaza para la salud a menos que se haga bajo las condiciones apropiadas.

Dixon dice: "Para ajustarse a estos nuevos cambios dentro de la comunidad, en cuanto respecta a las agencias oficiales de salud, se requiere una ligera re-definición de la responsabilidad de las agencias de salubridad pública local, a quien deben interesar los seis o siete servicios básicos. Pero yo creo que la comunidad espera que su agencia lleve el mando público, resolviendo cualquier problema de salud que la comunidad desea sea resulto por el gobierno. Esto quiere decir, que sera necesario reforzar la competencia de las agencias en la administracion pública, y modificar los conceptos de salud profesional, con la opinión de la comunidad.

Sería interesante hojear un libro en 1970 y ver como pudimos resolver los desafíos del 60.

"CA" NOW AVAILABLE TO ALL ARIZONA DOCTORS

The American Cancer Society's publication, "CA," formerly on limited distribution in Arizona, is now being made available free of charge, through the Arizona Division to all of Arizona's doctors who indicate an interest in it.

Currently the Division office is preparing a mailing to all doctors in the state, and included are a list of all professional films and literature available and a sample issue of "CA."

Simply notify the Division office, 543 East McDowell Road, Phoenix, of your interest in "CA" for inclusion on mailing list.

RABIES — A Public Health Problem In Maricopa County

V. H. Ueckett, D.V.M., M.P.H., and Stanford F. Farnsworth, M.D., M.P.H.

Since 1955 thirty-seven cases of rabies have been discovered among animals in Maricopa County. These have occurred among both domestic and wild animals. It thus appears that rabies is endemic in central Arizona and that precautions must be maintained to prevent human exposure to this highly fatal infection.

Current standards for prophylactic treatment of individuals bitten or otherwise exposed to rabid animals is fully discussed. Maricopa County is setting an example of combating this troublesome problem that deserves applause.

The need for revision of existing legislation to provide better protection to the human population is pointed out.

IN THE EARLY medical recordings of man there have been references to the disease which today we know as rabies. All physicians have encountered this historical information and many have had an opportunity to treat animal bite cases, consequently, the classics of rabies will be omitted.

Rabies: A Public Health Problem in Maricopa County.

Rabies is endemic in Maricopa County. This can be substantiated from the Arizona State Health Department Laboratory's diagnosis of 37 positive animal cases which were submitted from within the county since 1955. The total for Arizona was 144 rabid animals and included the cat, dog, horse, cow, bat, fox, and others. The animals most recently found to be rabid in Maricopa County were a bat caught near Papago Park and a fox at New River. Thirteen cases of animal rabies were reported in Arizona during 1960. Ten of these (5 foxes, 2 bats, 1 bobcat, 1 dog and 1 horse) were in the area surrounding Scottsdale in Maricopa County. Several coyotes and foxes having symptoms of rabies were observed in this same area, but unfortunately were not submitted for laboratory examination.

Problems Arise in Any Rabies Program

In considering the problems of rabies, we are faced with several facets of rabies control: (1) New legislation is needed to replace currently "antiquated" legislation. Existing law exempts the hunting dog from vaccination. That the statute needs strengthening is obvious since more than half of the animals found to be rabid are wild animals which may come in contact with the hunting or ranch dog. (2) The number of dogs receiving vaccination should be increased since probably less than 30% of the dogs in Maricopa County have received this protection. At least 70% of our approximately 70-80,000 dogs should be vaccinated in order to reach the level of vaccination recommended for the control of rabies. Since numerous cats were diagnosed as positive for rabies, they, too, should be vaccinated. (3) An increased number of humane officers armed with effective powers to control the stray dog population, and improved control of wildlife are examples of other

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important measures needed in a good rabies control program.

Maricopa County's Rabies Control Activities

At the present time the Maricopa County Health Department is engaged in or sponsoring the following activities and programs:

(1) Improved rabies control legislation will be presented to the next legislature.

(2) The County will continue its participation in the research project with antirabic vaccine (High Egg Passage Vaccine — Lederle) which now has approximately 190 participants.

The development of rabies vaccine prepared in avian embryos (chicken or duck) has possibly provided a solution to the question of best "before bite" and "after bite" preventive measures. These vaccines, essentially free of central nervous system tissue, do not induce neuroparalytic accidents, usually attributed to the demyelinating reaction often resulting from Pasteur treatment with conventional vaccines of nervous tissue origin. The vaccine using duck embryo has been licensed and is in use today. The avian vaccine made from chick embryos injected with high egg passage (HEP) Flury strain virus is under investigation at the present time.

The project presently under way in Maricopa County requires 2 ml. of reconstituted chick embryo vaccine (HEP) intramuscular with 4 doses administered about 7 days apart. A blood specimen is taken at the beginning of the series and again 30 days after the 4th dose. These specimens are sent to the Lederle Laboratories to determine whether or not a rise in titer has occurred. The results of this project and similar projects throughout the country are very encouraging.

The Maricopa County Health Department has additional programs under way:

(3) A surveillance of bats in the County is in progress. This includes trapping, identification, submission of bats to the Arizona State Laboratory and Southwest Rabies Investigation Station in New Mexico for rabies examination.

(4) The County will continue to offer assistance to the practicing physician in obtaining necessary epidemiological information concerning animal bites. The physician may need additional information in connection with the initiation of anti-rabic treatment. A public health veterinarian is on the staff of the Maricopa County Health Department and is available to assist in such investigations.

(5) The Health Department will keep the physician informed on the latest advances in the treatment and control of rabies and other zoonoses as this information becomes available to the department.

The Doctor's Problem — A Dilemma

Frequently the doctor's greatest dilemma in animal bite cases is "should treatment be administered?" To the patient who telephones, the physician should recommend immediate cleansing of the wound with running water (flushing action) using liberal amounts of soap, before coming to the office. The physician should employ the above method and could possibly increase the effectiveness by using a 20% solution of green soap, a syringe and a blunt needle to irrigate all parts and depths of the wound. In deep, puncture-type wounds which cannot be cleansed efficiently with soap, it may be necessary to use a strong mineral acid such as nitric acid. (Where possible, bite wounds should not be immediately sutured.) The immediate cleansing of the wound is very important. The patient should also be instructed to confine the animal or have it watched until it can be placed under proper observation. The humane officer should be called immediately or where possible the animal should be placed in a veterinary hospital at once. (This is a present health requirement.)

Criteria for Determination of Rabies Exposure

It is strongly recommended that the following criteria be employed in the determination of whether treatment should be initiated.

For the purpose of management of human exposure, a rabid animal is defined as one which according to Dr. T. F. Sellers, Director of the Georgia Department of Health: (1) is proved to be rabid by laboratory methods; (2) is clinically rabid by veterinary diagnosis; (3) dies

from unknown causes and is not subjected to laboratory examination within ten days after biting; (4) disappears after biting and cannot be located; (5) bites without provocation and is killed before confirmatory brain lesions have had time to develop or before mouse inoculation has been performed.

The decision regarding treatment can best be made by the physician. In the past he had to weigh the possible hazards of treatment against the danger of rabies, but this is no longer true because little or no neurotropic reaction has occurred in man after injection of duck embryo vaccine, except individuals allergic to ducks or duck eggs. (This may or may not be true in 100% of the cases since not all patients react the same and this treatment has been employed for a relatively short period of time.) The physician should take into consideration the possible or actual presence of rabies in the area and in the species of animal plus clinical behavior of the biting animal and the vaccination status of the biting animal.

The Maricopa County Health Department, when asked by the physician for assistance in determining whether or not treatment should be initiated, makes its recommendations based on a thorough investigation and generally by modifying the recommendation of Dr. Sellers and the World Health Organization.

If the biting animal is a large wild animal such as fox, bobcat, coyote, skunk, and others, immediate treatment is recommended.

Recommendations Following Bat Bites

There should be no hesitation in initiating treatment in bites inflicted by bats. Several facts should be considered: (1) the bat is both a symptomatic as well as an asymptomatic carrier. (2) the absence of Negri bodies in the bat brain does not assure that the bat was free of rabies. Not only do many rabies-positive bat brains lack Negri bodies, but many rabies-infected bats possess virus in the salivary glands only. (3) about 15% of our commonest Southwestern bat species were recently determined infected, but the infected bats showed no symptoms. (Dr. Denny G. Constantine, Chief, Southwest Rabies Investigation Station, New Mexico.)

In bites involving dogs, an important fact to remember is that dogs are known to emit the rabies virus in the saliva toward the end of the incubative period, two to three days before symptoms appear. If a dog remains healthy past the seventh to tenth day it is not likely that he was shedding the virus when he bit the victim.

Types of Treatment Available.

Once it has been established that post-exposure treatment is necessary, the physician has a choice of the following: (1) Semple vaccine (1919) a phenolized fixed virus vaccine (2) ultra-violet irradiated fixed virus vaccine (3) a vaccine prepared in duck embryos, inactivated with beta-propiolactone (4) plus anti-rabies serum (hyperimmune serum).

The anti-rabies serum is derived from the blood of horses which have been hyperimmunized by replicate injections of fixed rabies virus. If the physician elected to initiate treatment using the hyperimmune serum in conjunction with the duck embryo vaccine or any of the other types of vaccine mentioned several facts should be taken into consideration: (1) the hyperimmune serum confers passive immunity and gives immediate protection for a short period of time until the mentioned vaccine treatment can confer active immunity. The hyperimmune serum is essential in cases where the incubation period is short. (16-22 days) (2) a sensitivity test should be performed before initiating the use of hyperimmune serum, since serum sickness is a comparatively common side reaction in the administration of equine serum. (3) the hyperimmune serum loses its effectiveness if used more than 72 hours after the exposure. It has been used in some instances where there was hope that some protection could be gained before multiplication and migration of the virus to the central nervous system. (4) the recommended treatment, when using hyperimmune serum with other active immunization agents, is one therapeutic dose of serum (administered within seventy-two hours, preferably 24 hours) and at least 14 daily doses of vaccine. In cases where serum is followed by a full course of vaccine it is suggested that two supplemental doses of vaccine be administered at 10 and 20 days following the completion of the usual vaccine schedule. Where possible, these supple-

mental doses should be with a vaccine of non-nervous-tissue origin. (WHO Fourth Report No. 201).

The above recommendations are only a guide and in certain situations specific conditions may warrant modifications. Examples are: (1) Some of the serum dose might be infiltrated into the tissue beneath the wound, when this is feasible (total amount of serum depends on weight of patient) (2) a single dose of serum might be administered while the dog is being observed for 7 - 10 days. (3) three doses of vaccine at daily intervals and no further vaccine as long as the animal stays healthy for 7 - 10 days. If interval between exposure and serum administration is greater than 24 hours, or if there are severe wounds about the head or neck, 2 or 3 times the recommended amount of serum might be administered. Application of ordinary antiseptics and antibiotics or anti-tetanus procedures should be initiated, regardless of anti-rabies treatment when indicated.

Precautions

Anti-rabies serum delays virus propagation, thus allowing more time for the vaccine to induce antibodies to the virus, but it should be remembered that serum alone is of no value in the treatment of rabies. After a sensitivity test (for the anti-rabies serum) has been performed, a careful history should be taken for past evidence of angioneurotic edema, asthma, or other allergies including sensitivity to horse serum. It is believed that if more than one dose of therapeutic serum is given or less than the 14 daily doses of vaccine are used, there may be an interference with antibody production. The same syringe should not be used in administering the vaccine and serum, nor should the same site be used because there may be some neurtalization of the vaccine.

With the evidence of the endemicity of rabies in Maricopa County every effort should be made toward the control and the eventual elimination of the disease from the animal populations. The elimination may be effected by setting up transmission barriers such as domestic animal vaccination, reduction of excessive numbers of wildlife vectors, and elimination of stray dogs.

Until rabies is controlled the physician, victim, and health authorities will be continually faced with the dilemma of treatment, but this old disease, like the new zoonoses, cannot be controlled without the concerted effort of all involved.

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

CHERNIACK AND CHERNIACK – RESPIRATION IN HEALTH AND DISEASE – Clearly explains the mechanisms by which pathological processes produce clinical findings in respiratory disease.

FLUHMANN – THE CERVIX UTERI – Fully covers diagnosis, clinical manifestations, medical and surgical management.

TENNEY AND LITTLE – CLINICAL OBSTETRICS – Authoritative management of 24 problems which currently cause difficulty in safe delivery.

This Is The Biological Warfare Threat

LeRoy D. Fothergill, M.D.

Epidemics, epizootics and epiphytotics will be directed against civilian, rather than military, targets. The stringent requirements of high infectiousness, stability during dissemination, military availability and lack of immunity are met by many pathogens presently absent or rare in this country. They may be introduced by sabotage or, under proper meteorological conditions, very effectively by aerosols of the 1 to 5 micron range delivered by weapons systems. Extensive preparation on local level is essential to defense.

THE THREAT of biological warfare cannot be ignored. Every community in our land must examine its potentialities in detail. The greatest danger may not lie in its capacity to kill people, but rather in the destruction of the economy through the incapacitation of the working force and the reduction of crops and domestic animals.

Biological warfare is primarily a strategic weapon for two major reasons: First, it has no quick-kill effect. The incubation period of infectious diseases renders the agents thereof unsuitable for hand-to-hand encounter. A man can be an effective fighting machine throughout the incubation period of most infectious diseases. Secondly, the optimum effectiveness of BW would accrue from the possibility of covering very extensive target areas. Our most thoughtful attention must be given to the latter in planning for civil defense.

One of our first considerations, of course, is the character and properties of agents that might be used. Only relatively few micro-organisms are suitable for BW purposes. These possess certain general characteristics that meet the special criteria required for inclusion in an arsenal of agents. Some of these characteristics are:

1. The agent must be highly infectious. Judgment as to possession of this characteristic is based upon a variety of evidence, principally medical and epidemiological. Very convincing evidence is suggested, of course, in the case of those agents which frequently cause infection in laboratory workers. Positive evidence has been obtained for many microorganisms by direct infection of volunteers by various routes of administration. There is an extensive literature reporting such results.

Presented at the Ninth U. S. Civil Defense Council Conference, Medical-Health Section, Sept. 21-22, 1960, Minneapolis, Minn.

Scientific Advisor, U. S. Army Chemical Corps Biological Laboratories.

This material was originally presented in a Symposium on Non-Military Defense, at the 137th Meeting of the American Chemical Society, Cleveland, Ohio, April 1960, and was subsequently published in Advances in Chemistry Series, No. 26, American Chemical Society.

The aerosol dose of two microorganisms was determined experimentally in human volunteers, recently, during the course of studies of the effectiveness of vaccines. The dose of *Coxiella burnetii,* the causative agent of Q fever, was found by Tigertt and Benenson(1) to be 10^{-9} grams of homogenized, infected chick embryo tissue. Saslaw, et al(2) found the aerosol dose of *Pasteurella tularensis* for man to be 25 to 50 organisms. Incidentally, it was found in these experiments that a living, attenuated organism, used as a vaccine, provided excellent protection against infection in individuals subsequently exposed to a virulent organism.

2. The agent must have sufficient viability and virulence stability to meet minimal logistic requirements. This property can be improved by appropriate research.

3. The agent must be capable of being produced on a militarily significent scale.

4. The agent should not be unduly injured by dissemination in the field and it should have a minimum decay rate in the aerosol state.

5. There should be minimal immunity in the target population.

It is quite obvious that there are many microbiological agents that do not meet these basic requirements for BW purposes. Conversely, there are relatively few organisms that meet them.

There are certain military characteristics also that should be kept in mind. Agents may be selected for the purpose of accomplishing a particular mission. In other words, an enemy might use lethal agents or agents that may cause varying degrees of incapacity.

There are two general methods whereby agents might be applied to a target. The first, and most important of these, is through the overt military delivery through weapons systems designed to create an aerosol or cloud of the agent. The second would be through covert methods.

The basic concept of creating a cloud or aerosol of biological agents stimulated much research concerning the behavior and properties of small particles containing viable microorganisms. This research has yielded, among other things, much information concerning the pathogenesis of respiratory infections. One of the major contributions has been the demonstration of the importance of particle size in the initiation of infection. The natural anatomical and physiological features of the upper respiratory tract, such as the turbinates of the nose and the cilia of the trachea and larger bronchi, are capable of impinging out the larger particles to which we are ordinarily exposed in our daily existence. Very small particles, in a size range of one to five microns in diameter, are capable of passing these impinging barriers and entering the alveolar bed of the lungs; an area highly susceptible to infection. This is illustrated by the data in Table 1(3).

These very small particles remain suspended in the air for a long period of time, particularly if there is some atmospheric turbulence. The smaller the particle, the further it will travel downwind before settling out. Such an aerosol will diffuse through structures in much the same manner as a gas, thus giving it a remarkable property for target searching.

There are a number of critical meteorological conditions that must be met for a biological aerosol to produce optimum effect. For example, bright sunlight kills living microorganisms suspended in air. There are optimal humidity requirements for most agents when airborne. Neutral or inversion meteorological conditions are necessary for a cloud to travel along the surface. It will rise during lapse conditions. There are certain times (late night and early morning) during the 24-hour daily cycle when most of these conditions will be met.

The behavior of cluds of small particles can be illustrated by the following field trials, reported by Fothergill(4).

In the first trial an inert substance was disseminated from a boat traveling some ten miles offshore under appropriately selected meteorological conditions. Zinc cadmium sulfide, in particles of 2.0 microns in size, was disseminated by techniques developed by Perkins et al(5). This material fluoresces under ultraviolet light

INFLUENCE OF PARTICLE SIZE ON RESPIRATORY VIRULENCE OF FOUR AGENTS FOR GUINEA PIGS

PMD RANGE (μ)	AGENT RESPIRATORY LD_{50} VALUES			
	BACILLUS ANTHRACIS (SPORES)	PASTEURELLA TULARENSIS (BACILLI)	COXIELLA BURNETII (RICKETTSII) (1)	VENEZUELAN EQUINE ENCEPHALOMYLITIS (VIRUS) (2)
0.3-1.5	23,000	2.48	1,000,000	20
4.0-6.5	221,000	6,500	52,700,000	19,000
8.5-13	700,000	19,500	$> 2.4 \times 10^9$	280,000

(1) DOSE IN GUINEA PIG IP ID_{50}

(2) DOSE IN MOUSE IC LD_{50}

Table No. 1

which faeilitates its sampling and assessment. Four hundred and fifty pounds were disseminated while the ship was traveling a distance of 156 miles.

The results are described in Figure 1, following.

This aerosol traveled a maximum sampled distance of some 450 miles and covered an area of over 34,000 square miles. The concentration of particles could have been increased by increasing the source strength which was small in this case.

The behavior of a biological aerosol, on a much smaller scale, can be illustrated by a field trial conducted with a non-pathogenic organism. An aqueous suspension of the spores of *B. subtilis, var. niger*, generally known as *Bacillus globigii*, was aerosolized using commercially available nozzles. A satisfactory cloud was produced even though these nozzles were only about 5 per cent efficient in produeing a cloud in the size range of 1.0 to 5.0 microns. In this test, 130 gallons of a suspension of these spores was aerosolized. The spraying operation was conducted along a two-mile course from the rear deck of a small Naval vessel, cruising two miles offshore and vertical to an onshore breeze. There was a slight lapse condition, a moderate fog, and 100 per cent relative humidity. A network of sampling stations had been set up on shore. These were located at the homes of Government employees and in Government offices and buildings within the trial area.

The results of this trial are illustrated in Figure 2. An extensive area was covered. The cloud was sampled for a distance of 23 miles downwind from the source. Approximately 100 square miles was covered within the area sampled. It is quite likely that an even greater area was covered, particularly downwind.

This trial, then, was conducted with a living biological agent and it traveled some 23 miles downwind. This experiment could be criticized

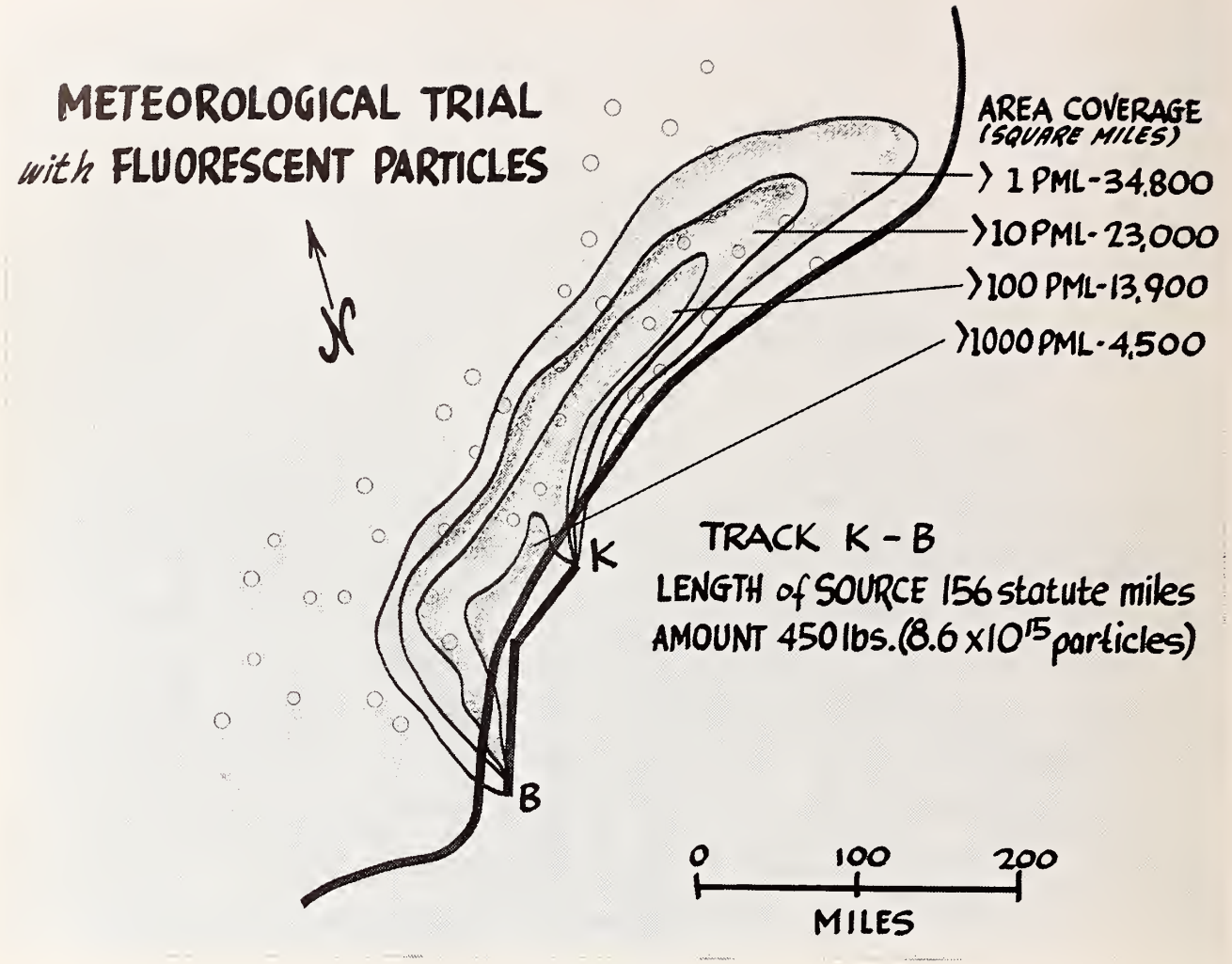


FIGURE 1

PM/L = Total particles collected at a sampling rate of 1 liter of air per minute. These figures, multiplied by the breathing rate, (i.e., 15 liters per minute) would give the inhaled dose.

on the basis that it was conducted with a bacterial spore which is subject to very little biological decay. On the other hand, in a recent trial conducted with a vegetative pathogen, guinea pigs were infected for a distance of 15 miles downwind of the origin of the aerosol. Etxrapolative calculations suggested that the latter aerosol probably traveled a good deal further than the sampled distance.

The former biological trial was carried out with a line source only two miles in length and the aerosol was generated by "jerry-rigged" equipment. In view of this, it requires no imagination to conceive of:

1) The design of specific military equipment to accomplish this;

2) The possibility of increasing the source strength to any desired degree; and

3) Extending such a line for 10, 100, 500 miles or for any distance for which equipment might be designed, thus covering a very extensive target area.

The possibility of the strategic coverage at long range of very extensive target areas is the major threat of BW to our nation. One of the major problems defensively would be the medical care of the large number of casualties that might occur. It is mandatory that there be detailed advance planning for this eventuality at the community level in every city, village and hamlet.

There are certain other effects, however, that are important defensively and which must be emphasized. These have not received adequate attention in the past. Such an extensive aerosol coverage with an infectious agent might create

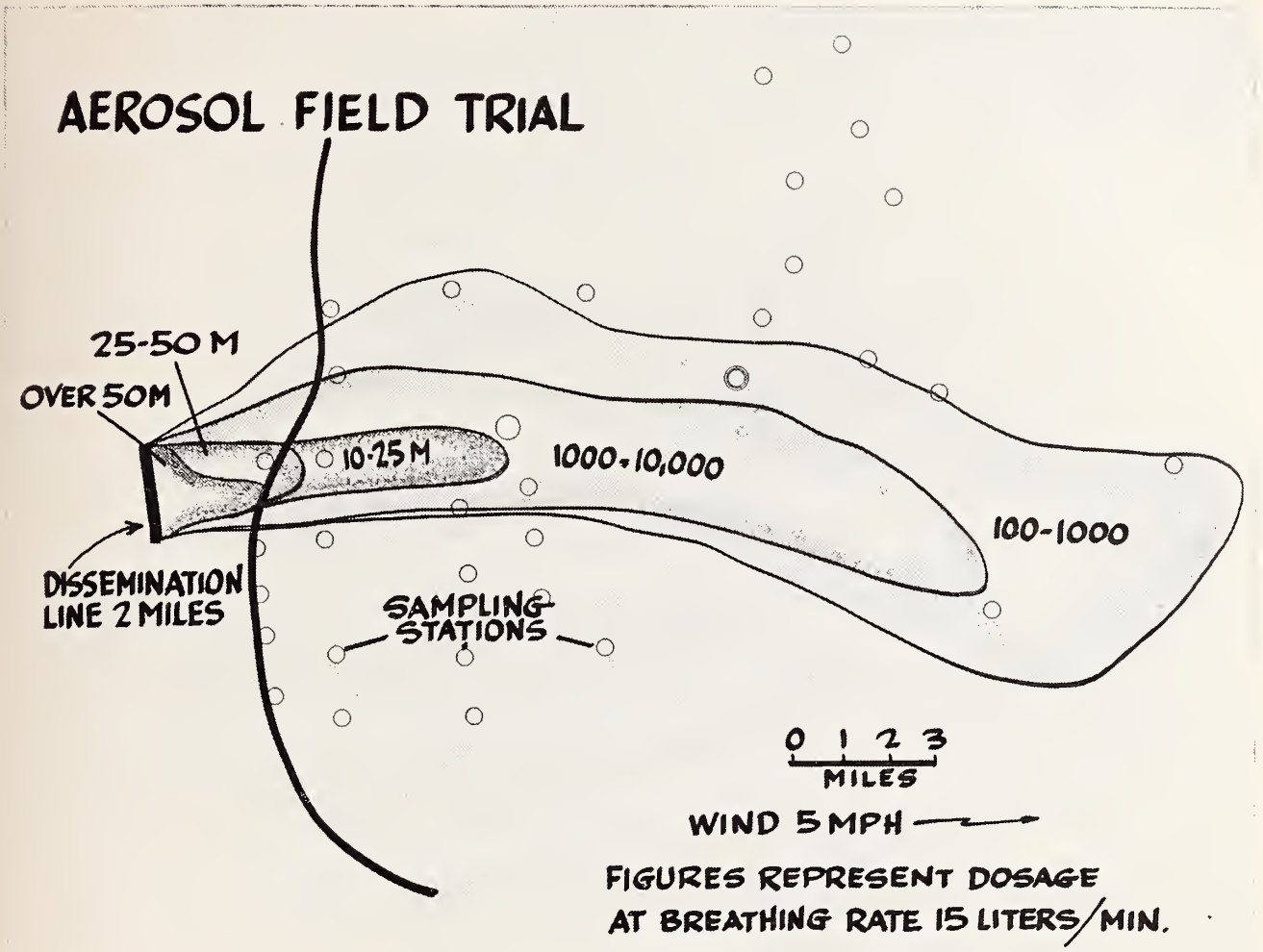


FIGURE 2

certain ecological and environmental problems of great importance. For one thing, bearing in mind the great capability of aerosols to penetrate structures, it is quite obvious that there would be widespread contamination throughout the target area; contamination of hospitals, food supplies, public and domestic kitchens, restaurants, warehouses, etc. In some instances, depending upon the agent involved, there may even be additional multiplication in some of these contaminated products; for example, the well recognized ability of the typhoid bacillus or the dysentery group of organisms to grow in milk.

There is another and an even more serious problem to be considered. All living things in such a target area would inhale the aerosol. This would involve a variety of animals and birds, both domestic and wild. There may be some very serious consequences from this in that new enzootic foci of disease might be established. For example, an aerosol of the plague bacillus might seek out rats in their burrows or squirrels in their dens.

In view of these target considerations, it might be well to reconsider types of agents for which we should plan defense. Agents can be divided into three broad categories for this purpose.

First, we must face the threat of the military delivery of truly exotic agents against our human and animal population and against our agricultural crops. Indeed, some of these agents, such as the viruses of Rift Valley fever or louping ill, might be infectious for both man and animals. Some, such as the viruses of Japanese B encephalitis, Russian spring-summer encephalitis and Venezuelan equine encephalomyelitis, might become established in some of the bird or animal population in the target area and thus create serious new enzootic foci.

Secondly, we must face the threat of the use of agents of disease against man, animals or crops that had been eliminated from our country at the cost of a great deal of money and effort. Such diseases as Asiatic cholera, yellow fever, smallpox and malaria of man, and pleuropneumonia, glanders and foot and mouth disease of animals, are examples. If such diseases were re-established, their control again might be exceedingly costly.

Thirdly, agents that are currently endemic or periodically epidemic might be used and some might be disseminated over areas where they are not now prominent. Among these may be mentioned the organisms of plague, tularemia, tuberculosis, brucellosis, coccidioidomycosis, etc. Our country has spent millions of dollars, for example, for the eradication and control of brucellosis in agricultural animals. Cows, calves, swine, sheep and goats would breathe an aerosol of this agent disseminated over a large target area. This might then re-infect animals in large areas that are now relatively free of this disease.

The possibility that mixtures of agents might be used should not be ignored. Some anti-animal agent might be included with an anti-personnel charging.

A variety of biological agents are, of course, suitable for delivery through enemy sabotage which creates many problems in defense. One's imagination can run wild in this regard. There are a few obvious targets, however of great importance. The air-conditioning and ventilating systems of large buildings are obvious points for attack. Our country possesses enormous food processing industries, including the preparation of soft drinks, and the processing of milk and milk products, that are subject to sabotage. Huge industries are involved in the production of biological products, drugs and cosmetics which are liable to this type of attack.

Specific biological warfare agents may be used for the reduction or destruction of agricultural crops and domestic animals — in other words, antifood biological warfare. The importance of food, especially during war, needs no emphasis. Some crops are of critical importance in other aspects of the economy. The fiber crops, cotton and hemp, are examples. Some industrial chemicals, such as alcohol, rubber, and certain oils are produced from agricultural crops. Last but not least, certain pleasure-producing crops, such as tobacco, tea, coffee and various herbs and spices, should be mentioned. A number of important drugs, such as digitalis, opium and quinine, are derived from specific crops. Domestic animals contribute a fair share to the overall economy. In addition to meat, dairy and poultry products, there are many other important products of the animal industry, such as draught power, transport in undeveloped areas, fertilizer (manure and bone meal), leather, wool, glue and gelatin and various very important pharmaceutical products. A critical item, in considerating defense, is the embryonated egg and its use in the preparation of various viral and rickettsial vaccines.

In all wars in the past, military efforts have been devoted to the reduction of the enemy's food supply. This has always been an important strategem in naval blockades. The grain-laden freighter has been a prime target for the submarine. Antifood biological warfare could be decisive in any major conflict of long duration. An attractive feature of anticrop warfare is that it does not destroy man's physical assets — his cities, his bridges, his railroads, etc. The soil, moreover, is not rendered infertile for agricultural production the following year. This situation would be somewhat more serious in the case of antianimal BW, since it would take several years to develop new herds.

Two types of anticrop agents with very different characteristics might be used. One class is represented by a group of chemical agents that act as growth-regulating hormones, such as 2,4-dichlorophenoxyacetic acid. These chemicals are active in extremely small amount. This particular compound is most active against the broad-leaved species. It is manufactured on a large scale for use as a weed killer.

The chemical agents are not, of course, self-propagating and will affect only those plants to which they have been applied. On the other hand, they are much more catholic in the variety of plants affected than is the case with the

highly specific biological agents.

The biological anticrop agents would, undoubtedly, be the most damaging if used on a large area basis. Agents would be selected for their capacity to propagate. Experience with natural epiphytotics indicates that large crop areas may be covered. The spread of stem rust of wheat up the Mississippi Valley and Great Plains area and on into Canada is a typical example. The famine in Ireland in 1846 and 1847 due to a widespread epiphytotic of late blight of potatoes is illustrative also. Blast disease of rice has caused repeated damage to the rice crop in the Orient.

Our country is in a relatively favorable defensive position in anticrop warfare. We are in the unusual position of finding overproduction of agricultural crops a major problem. As a result, we have several years of most major products in storage. Our agriculture, moreover, is very diversified and biological agents are highly specific. Actually, those countries that are generally dependent for climatic, agronomic or traditional reasons, on a single crop are the most vulnerable.

Our position with respect to antianimal agents, on the other hand, is critical. Our animal populations are highly susceptible to the major plagues of livestock. Introduction of these agents could be devastatingly serious.

This, then, is the BW threat. This is the framework upon which defensive thinking and planning can be built. Other speakers will present plans and procedures in detail for providing a readiness in defense.

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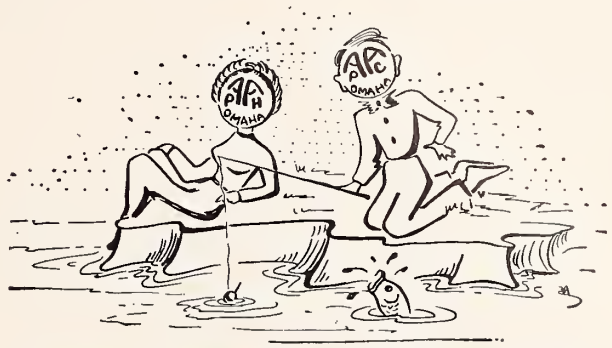
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1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

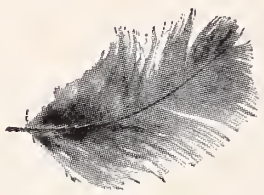
infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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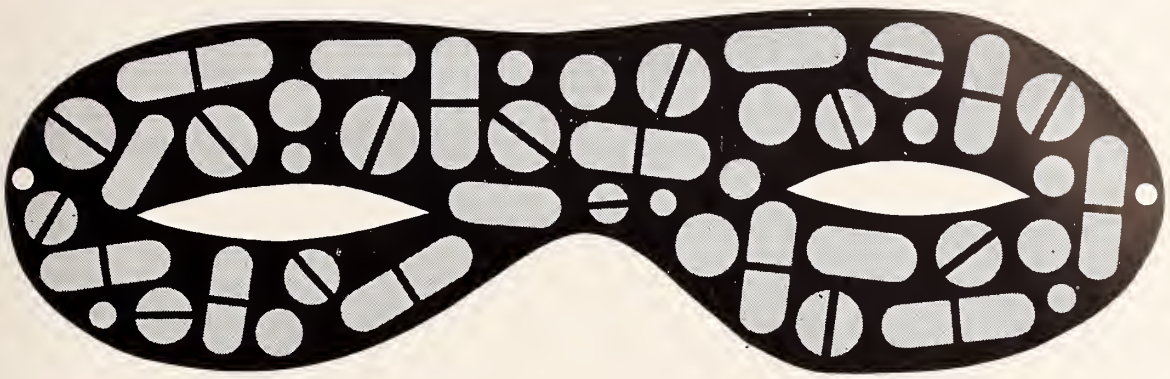
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Rhode Island Medical Journal,
January, 1961

Are the savings worth the risk of sacrificing quality?

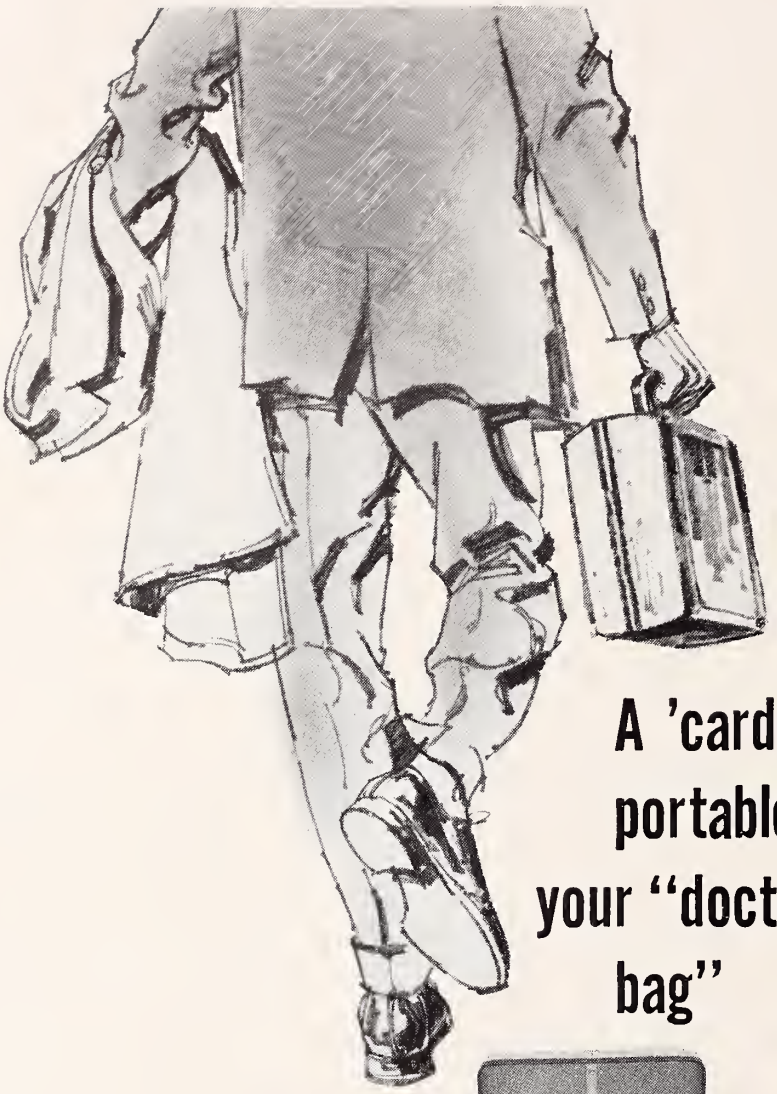
". . . it is unsafe [to prescribe generically] because there is not sufficient policing of our standards. . . ."

Lloyd C. Miller, Ph. D.
Director of Revision of the U.S.P.

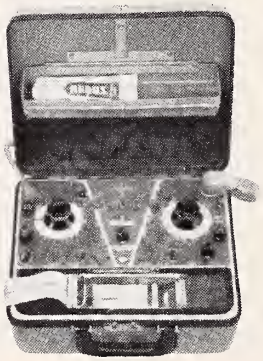
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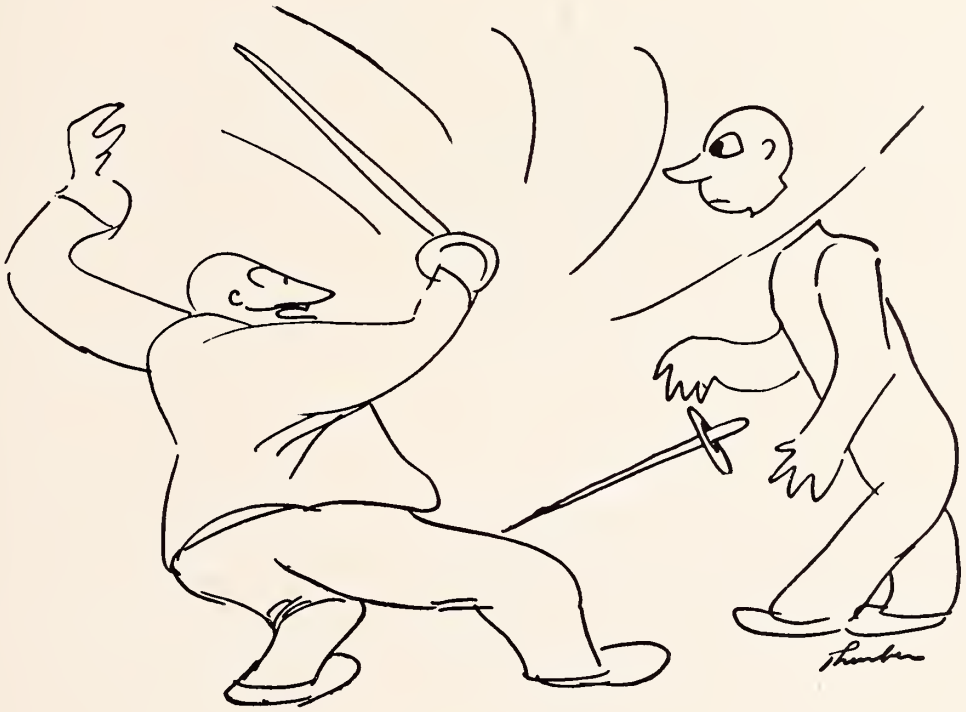
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Medical Society of the United States and Mexico

Annual Meeting - 1961

Plans continue to take shape for the next meeting of the Medical Society of The United States and Mexico which will take place in Hermosillo, Sonora, Mexico December 6, 7 and 8 of this year.

Some modifications of the policies under which these meetings have been organized in the past will be applied in Hermosillo. Emphasis on social events will be limited, in favor of a greater variety in the scientific program while maintaining a level of high quality in the papers. An effort will be made to have some symposia or round tables as well as wet and dry clinics on certain topics. For example, coccidodomycosis is endemic in a good portion of the state of Sonora, and much interest and experience has been gathered among the physicians in the Hermosillo area in this disease so that a session on this topic would be welcome. We will attempt to limit the papers given to six from each country.

In September more information on the meeting and a more definitive version of the program will be mailed to the members.

Purchase of a translation electronic unit by the Society is being considered. This equipment makes possible the simultaneous verbal reception of one paper in both Spanish and English. While the speaker gives his contribution in his mother tongue to the audience in general, those in attendance who only understand the other language will be able to hear it in that language through a version spoken into the transmitting unit and heard only by those holding individual receivers. This should allow universal understanding and appreciation of the papers. Such a system is employed in multilingual gatherings, such as the U.N.

The Society is also taking a stand in the controversial ECMFG examinations and its regulations governing the employment of interns and residents in U.S. hospitals especially from Mexico. After consultation with members of our Executive Committee in Mexico and in the United States we have written the Educational Council advocating certain basic modifications in the program, which would allow Mexican physicians to be employed by U.S. hospitals prior to taking the ECMFG examination, on a probationary basis as clinical clerks with limited responsibilities for a period of approximately six months. During that time the employer hospital would commit itself to an intensive didactic program preparatory to taking the examination, which would emphasize language courses, as well as a medical teaching program.

An effort will be made to provide the readers with current information in the monthly issues of Arizona Medicine concerning the activities of the Society, especially in connection with our forthcoming meeting in Hermosillo.

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The President's Page

Our Rapport

Leslie B. Smith, M.D.



Leslie B. Smith, M.D.

We were highly complimented by the unsolicited comments given by one of our experienced exhibitors. This exhibitor, who chooses to have his name remain anonymous, requested the privilege of reviewing his observations at our 1951 meeting, and compared them with some of his previous experiences with us. He stated that . . . the doctors were much more friendly this year . . . they were less cold . . . they did not seem to be carrying a chip on their shoulders . . . they actually went down the aisles arm in arm rather than as strangers . . . they seemed to be unified and not a group of divergent closed cliques which were about to do battle with each other. He further stated that he could not explain the cause or causes of this change from one of antagonism to one of harmony, but he wished to assure me that the feeling of congeniality was felt by virtually all of the exhibitors in the big top. These observations have been voiced by others.

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Editorials

The Brainwashed Doctor

How does a man determine a fact? First of all, how does he determine a scientific fact? Specifically, how does a physician establish medical fact? Ideally by research — by long hours in the laboratory or by painstaking and controlled observations at the bedside, in the operating room, in the consulting chamber. In default of investigative opportunity, with its associated statistical checks, often through personal experience, at first perhaps largely intuitive, but gradually accumulating into a mass of supportable clinical wisdom. Finally, in a day when learning is so vast that no one man can be individually knowledgeable about even a small professional field, each doctor must appeal to authority, preferably unbiased authority. When authorities disagree, he tries to match opposing or supplementary or differing judgments on the question at issue. This technique holds every decision as only tentative, subject to constant review and to change in the light of altering evidence.

How does this same physician, this earnest

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accept for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

Editorials of **Arizona Medicine** are the opinions of the authors and do not necessarily represent the official stand of The Arizona Medical Association. The opinions of the Board of Directors may be sought in the published proceedings of that body.

advocate of scientific method, seek reality in the social field? How does he make his political decisions as a citizen? How does he reach a consensus with his fellows on the economic crises that affect medicine? Unfortunately from sources that regularly represent only one side of the debate. From AMA handouts, from the editorials of conservative newspapers, from middlebrow magazines, from the speeches of right-wing politicians, and lamentably too often from the kind of delusionary nonsense that is found in pamphlets circulated by reactionary paranoids. Once crystallized the beliefs thus formed are almost irreversible. They become tenets to be defended against the infidel with holy fervor. And there is small excuse in the rebuttal that the "liberals" have been fed equally predigested pap, only of a different flavor.

Here then is a plea that this man, so well-informed, so cautious, so skeptical and fair-minded in medical matters, exert the same care in his social and economic conclusions. He cannot experiment; he knows that he can observe only through vision distorted by his own prior convictions; and he knows that he must distrust his own automatic responses as influenced unconsciously by self-interest. There remains therefore only appeal to information — to broad, widely based, balanced information. It is hard, perhaps impossible, in this age of propaganda and public relations, to find a totally objective political opinion. One can at least examine all sides of a problem.

To counter his reading of *Time* and *Life*, the doctor can at the very minimum try *Newsweek* and the Sunday *New York Times*, or perhaps one of the liberal weeklies such as the *Nation* or the *New Republic*. To square the stories in that conservative Republican newspaper, let him also subscribe to a liberal Democratic sheet. As antidotes for broadsides from the AMA, the American Association of Physicians and Surgeons, the National Association of Manufacturers, or the U. S. Chamber of Commerce, he can obtain published blasts from the opposition, from the AFL-CIO, from the American Civil Liberties Union, from the Americans for Democratic Action. Before he swallows whole what is said in the *Reader's Digest*, the *Saturday Evening Post*, *U. S. News and World Report*, or the *National Review*, he would do well also to scan journals of opinion like the *Saturday Review*, the *Progressive*, the *Reporter*, *Commentary*, the *Atlantic*, or *Harpers*. Let him weigh columnist against columnist, journalist against journalist, Marquis Childs against George Sokolsky, Walter Lippmann against David Lawrence, James Reston against Holmes Alexander. Everyone can make his own list, fairly to offset the crusaders of the left by the defenders of the right. This entreaty is only for tolerance, for wide reading, for the open mind, for an attempt to view the full spectrum of opinion.

It is tempting to speculate on the results if every American physician suddenly decided to start fresh on his politico-economic conceptions. To wipe his mind clean of the predilections he has gathered. To disregard the special allegations and alarums of the missionaries of the true faith. To begin dispassionately to construct for himself a social credo built from the best available fact. Maybe he would end up with exactly the same dogmas to which he now adheres. And maybe not.

Lindsay E. Beaton, M.D.

EYE PROTECTION

A News Bulletin received by the Editor from the National Medical Foundation for Eye Care requests members of the Medical Profession to be alerted to the dangers of the rays of the sun during solar eclipses.

There have been several cases of permanent damage to the maculae observed in children and in adults who viewed these eclipses without protection of some filtering device for these rays.

Some school teachers have recommended to their students that they use old film negatives or ordinary dark glasses for viewing the solar phenomenon. It was noted that there were 14 cases of damage to the macula in Oregon and Washington in students who viewed the sun in this manner.

It is felt that physicians can render a great public service by alerting school authorities to the dangers of viewing the eclipses without proper filtering devices.

* * *

From the same News Bulletin comes an editorial stating the value of screening tests for

glaucoma conducted under the auspices of the National Society for Prevention of Blindness.

One such detection program is in the District of Columbia. This program, to date, has screened 7,500 people using a Snellen visual acuity chart, the Harrington-Flocks Screener, and the determination of the intra-ocular tension with a tonometer. Most of the people who were screened were from local business organizations and service clubs. Approximately 20 cases of glaucoma were detected per 1,000 tests in individuals who had no family history of glaucoma, while approximately 45 people were detected to have glaucoma in individuals with a family history of glaucoma. It was felt that the results of this work were extremely worthwhile and that such projects should be stimulated throughout the country.

The results of a screening program in Phoenix were published in ARIZONA MEDICINE last year. Such a program is also contemplated for the Tucson area soon.

Since glaucoma is often a silent disease, producing no symptoms until most of the vision is destroyed, screening tests are extremely valuable in its detection. The use of a tonometer by general practitioners during the course of routine physical examination would aid greatly in the detection of this disease. It is urged that general practitioners consider the purchase of a tonometer and that they obtain some training in its use from local ophthalmologists in order to take further steps toward eradication of this disease.

A. K. Hansen, M.D.

EDITOR'S NOTES

"Medical science only tells us how to do things, not what we should do among all the things we can now do and the many more we will be able to do in the near future — and the choice as to what we do will have to be the responsibility not of the doctors and scientists but of all society, because the questions to be answered are moral questions."

Dartmouth Convocation —
Medicine's Moral Issues

* * *

" . . . The greatest difficulty in the achievement of health in the modern world will not come from learning more things and learning to handle a little better what we know but rather from all sorts of social limitations that will prevent us from applying the knowledge that we have. These social limitations cannot help bringing to the medical community extremely difficult problems of consciousness in the future . . . In 90% of the total world the problems of disease can be traced either to inadequate nutrition or to the problems of infection . . . What is needed here is an economic revolution without which medical science cannot apply what it has worked out.

" . . . One of the very great problems of medical science; namely, that one can get public support — your support — only if one can point to something in which you, today, are interested, but it is extremely difficult to enlist your support for something which is vaguely in the future.

"To what extent can we afford to prolong biological life in individuals who cannot derive either profit or pleasure from existence, and whose survival creates painful burdens for the community?

"That kind of decision is not a decision for the physician. In our society our ethics dictate that it is the duty of the physician to save and prolong life — whatever the cost, whatever the consequences. The physician must act according to the ethics of the society of which he is a part so that it will be for society to redefine these ethics."

René J. Dubos

* * *

" . . . We now live under scientific and technological rates of change which are so rapid that they completely outstrip the mutation rate. We can no longer hope that evolution will succeed in keeping man in balance with his environment."

Warren Weaver, Vice President
Alfred P. Sloan Foundation

* * *

"In medical matters it is frequently necessary to take action after the careful weighing of evidence that would not in itself constitute evidence in the legal sense, and from the present medical evidence here, the probabilities of a serious health threat for future generations are so strong that certainly it is practical wisdom to act now. But whatever environmental contamination we seek to correct in air, water or food we are

facing a problem of formidable proportions, for the contaminations are not the work of evil men, or even slovenly neighbors, as was the case 25 or 50 years ago. Instead, today's contaminations aer the impersonal reflections of a highly organized society."

Walsh McDermott

* * *

" . . . The population of the world is likely to increase to such an extent that within perhaps the time of our grandchildren the population may outrun its food supply.

" . . . Euthanasia. My own view is that this is not a fair request for society to make of the doctor, because it is the doctor's duty to save life, and I don't think he can ever take it.

"Conscience for most people, then, is simply whatever they believed when they were small children."

Sir George Pickering

* * *

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

Brock Chisholm

* * *

" . . . At least one in every five persons, on the average, is encumbered by a mutant gene that arose "spontaneously," as we say, in a reproductive cell of one of his parents . . . It is obvious that unless people of the genetically least fortunate fifth of the population when saved for reproduction by the triumphs of modern medicine and other technologies reach a firm decision not to pass along their burden to prosperity, the genetic qualtiy of future generations must inevitably undergo a decline."

Herman J. Muller

* * *

" . . . I feel that we should concentrate more, first of all, on avoiding the more obvious genetic defects, preventing the more or less genetic defects from being multiplied, and in the second place on seeing what can be done with the capacity that we already have."

Aldous Huxley

* * *

"Although obviously extremely rare, the possibility that acute renal insufficiency can complicate cholecystography should be kept in mind, and patients subjected to the test should be observed for 48 hours at least. Although there is no evidence that patients with chronic renal disease are more susceptible to this complication, it seems reasonable that double doses of cholecystographic mediums should be administered in such cases with caution."

"Acute Renal Insufficiency After Ingestion of a Gall-Bladder Dye, *New England Journal of Medicine*, Vol. 264, No. 20, May 18, 1961.

* * *

The Pennsylvania Medical Society has established a joint, permanent liaison committee composed of five representatives of labor and five of medicine at the state level for the purpose of discussing problems of medical care which are of concern to both groups . . . A joint statement issued to the press by labor and medicine urging the state legislature to take full advantage of the recently enacted Kerr-Mills legislation has been issued. The common objective of both groups is to provide the highest quality medical care at prices which the laboring man can afford.

* * *

"In fact, if nothing is done to expand medical education beyond present plans, then by 1975 each doctor will have only about 5% more potential patients than he now has.

" . . . the biggest remaining threats to health and life are foolishness and old age — ailments for which there is no lasting medical cure.

" . . . I believe that a forced draft expansion of medical education might not be the best solution to the most serious problems.

"It is axiomatic that the benefit of public and philanthropic funds for social services should go to those who are most in need of better services. It is hard to justify big expenditures to expand medical education unless such expansion will improve the lot of those who now get the poorest medical care.

"The only practical way to get more doctors into the public hospitals that need them most is to give these hospitals enough money to pay competitive salaries and provide good working conditions. If we can increase our public investment in medical care, this might be a good place to begin.

"A second aspect of this problem is the regional imbalance of health facilities. Doctors, hospitals, and medical schools are concentrated in the big cities of the industrial states. In the

United States as a whole, there is one active doctor for about 850 people. In New York state there is one for every 550 people; in Washington, D.C., one for every 350. But, in many states, especially in the South, each doctor must serve about 1,400 people. Again, New York state has 10 medical schools, while 11 states have none at all.

"How to get doctors into areas where they are scarcest is one of the hardest of problems, as many small towns can testify. Building medical schools in these areas would certainly help, but it is not always possible to build a medical school where it is most needed. You cannot have a good medical school without good students, good teachers, a good university and a good general hospital. Moreover, there is no way to keep a doctor near his medical school if he doesn't want to stay there.

"Medical education shares the overwhelming financial problems of both the universities and the hospitals. Rising costs for both are largely the result of rising wages and salaries. Since both have a long way to go before they are paying at competitive rates, we can anticipate still greater increases in the costs of running universities, hosptials, and medical schools.

"It seems clear that the over-all problem of medical school finances cannot be met either by private philanthrophy or state appropriations. It is only realistic to assume that more federal aid may be necessary."

Henry Ford II

"A Businessman Looks at Medical Education"

LETTERS TO THE EDITOR

June 12, 1961

Dear Dr. Neubauer:

One of my clients called me up to read me the article you wrote about medical records. (ARIZONA MEDICINE, June, 1961) I appreciate the fact that it was in the journal and hope it will do some good. It is a subject that I hope the medical profession pursues to a satisfactory conclusion.

Sincerely,
William H. McBratney

June 15, 1961

Dear Doctor Bruwer:

Your editorial — "American Medical Association Television Program" — in the June Arizona Medicine, hit a responsive chord here!

For the past several years our Society has been "television minded" — starting with half hour programs put on in conjunction with some of the local health agencies, and progressing to full hour "spectaculars," now syndicated by the Screen Gems subsidiary of Columbia Pictures.

As a result of our San Francisco experience, the California Medical Association is now producing a series, "Doctors at Work," which shows what doctors *do*, and incidentally but surely weaves in medicine's message. One of the series, "Operation Safeguard," gave a montage of the activities conducted by medical societies for the public's benefit (including many of the thoughts expressed in your editorial), ranging from athletic injury clinics to mediation committees.

Perhaps an arrangement could be made where some of the films could be used in Arizona, with local commentators and physicians. If the AMA continues to lag in using what you so aptly termed the "medium best suited to public education in our era" perhaps our Western states can at least have our bases covered!

I would be most interested in any further thoughts you have. With congratulations on your editorial,

Sincerely,
JOHN B. SCHAUPP, M.D.

Past Chairman, San Francisco Medical Society Television & Radio Committee

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Topics of Current Medical Interest

Clarence G. Salsbury, M. D.

To reduce the saga of Clarence G. Salsbury's seventy-five full years to an equation is an impossibility! Life presents its limitations: it covers small men, challenges great ones. Doctor Salsbury is always one to take up the gauntlet life has thrown.

The sum total of a personality represents a man's impact on life, and life's reaction to him. There are inexorable equations of destiny. Like catalysts we may alter the speed, but the crucible's ultimate residue is unchanged.

He was a native of Canada, the eldest of ten children in a farm family. He received his M.D. degree in 1913 from Boston College of Physicians and Surgeons. Following his internship and post-graduate training in New York, he and his beloved Cora left for the Orient as Medical Missionaries.

It is felt that the American Indian migrated Big was superintendent to three hospitals under the Presbyterian Missionary Board. This island is now under the rule of Red China. What an odd quirk that when he returned to the United States after thirteen years in China, that during this furlough, the Red Wave of Communism and the political maelstrom finally swept the Orient and prevented his return!

Hainan, is geographically located off the southwestern China Coast, only a couple hundred miles as the crow flies, from Laos where another sometime controversial M.D., Tom Dooley, dedicated his life and talents.

The significance of this area was pointed up by President Kennedy's Vienna conference with Chairman Khrushchev where Laos stood high on the agenda.

But if we accept the anthropolographist's theory, the Mongolian features of the Navaho were a heart-warming sight for the Salsburys. It is felt that the American Indians migrated across the Behring Strait from Asia to his ultimate habitat in North and South America. We find in Doctor Salsbury's writings the remarkable coincidence that in the Chinese culture, the Eskimo culture as well as the Navaho culture the recurrent reverence for the number four and that there are over fifty words which are identical in the Chinese and the Navaho language.

Since that first European Columbus, discovered the American Indian, they have found that the white man's successful dealings come only with patience, time and mutual respect.

In the earliest days at Ganado, he had learned too late of the young daughter of a medicine man who had fatally injured her legs. After four days of chanting and Navaho sings he rushed her to his new hospital where she died of a pulmonary embolism. This was all the provocation the Navaho Medicine Man needed for their obvious competition. These Shamans had perceptiveness and dignity. They were many in number for one out of seven of the Navaho is a Medicine Man. They were no weaklings, these Shamans were M.D.'s, Ph.D.'s, Ministrels, poets, artists, and confidants to the tribe.

They whipped together an angry mob who were prepared to lynch this first white doctor

to operate on a Navaho. Their violence was stemmed only through the intervention of the now famed Red Point, whose impassioned plea returned the angry mob to their hogans.

It is no small wonder that Red Point was made one of the first members of the Ganado Hospital staff.

A few years later at the first graduation of Navaho nurses Red Point sat on the platform. He stood out from the other speakers, sitting there in barbaric splendor! Massive silver conchos belted his purple velvet suit, his green velvet trousers topping his high deerskin moccasins. At this hospital ceremony he rose to speak, "The White Doctor Tso had much to learn when he first came here, but he is now doing good for our people. He and I do not always see eye to eye, but we consult each other."

After that pithy triumph by Red Point no one quite recalls the other speeches that first graduation day.

The gentle Navaho gave him the name Eh-zay-lin Tso (Doctor Big), for should they seek his monument they need but look about them. When he left there were seventy permanent buildings on the two hundred acre campus. On one of these buildings there was a motto which is testimony to his humility, "I dressed his wounds but God healed them".

Within a year after his retirement from the Ganado Navaho Hospital he was appointed to his position as a member of the Arizona Public Health Service by Governor Howard Pyle. With Cora his bride and co-worker of fifty-one years he is retiring for the third time. Yet he is a spry seventy-five and bears watching.

Doctor Salsbury has the kind of religion that lived itself. He rolled up his sleeves, spit on his hands, and went to work. He made an impression upon those he met because he was not an imagined legend, he was from actual life. To Arizona he is rather quite what Albert Schweitzer has been to Africa. He was not a member of the cramming club in Christianity, the impact of his powerful ethical personality cannot do otherwise than frame the consciousness of this idea.

Close upon two score years ago we Arizonans accepted this then stranger. He retires from active duty a favorite son, leaving his impact upon us as a physician, pastor, father confessor, an administrator, an honest opponent, and a man with humility plus God's help.

Edwin A. Busse, M.D.

"PRIVILEGE OF THE PATIENTS' SECRETS"

"Whatever, in connection with my professional practice or not in connection with it, I see or hear, in the life of men, which ought not to be spoken abroad, I will not divulge, as reckoning that all should be kept secret"

The patient who comes to the physician with a problem, either medical or mental, assumes that the physician will not pass onto others any disclosures made within the intimacy of the consultation room. The Hippocratic Oath quoted above clearly defines that ethical standard under which phyiscians for thousands of years have pledged to hold inviolate the patient's confidences. This relationship constitutes and assumes confidentiality and is based upon ethical and upon moral concepts.

In contrast, although not in contradiction, the privileged communication is a right under law, defined and established by statute. When privilege exists it is a legal right which belongs to the patient whereby the doctor may not disclose or be forced to disclose those confidences needed for an adequate diagnosis and therapy or reveal the nature of the therapy.

In some jurisdictions the patient does not possess the right of privilege. In an adjacent jurisdiction the patient may be fully protected by law from any and all disclosures by his personal physician.

The fact that a patient assumes a relationship of confidentiality demands that the physician, general practitioner or specialist, know both his ethical obligation as well as his legal responsibility.

Psychiatric treatment is of such a specialized character that confidentiality becomes a requisite toward a successful goal in therapy. Privilege has been challenged on the grounds that it may obstruct justice by withholding evidence. In order to serve the community effectively many psychiatrists are of the opinion that the social value which effective psychiatric treatment has for the community far outweighs the potential loss of evidence resulting from the withholding of testimony by a psychiatrist about his patient.

A model statute demarking the privileged re-

lationship between the patient and his psychiatrist has been proposed and reads as follows:

"The confidential relationship and communication between psychiatrist and patient shall be placed on the same basis as regards privilege, as provided by law between attorney and client".

The relationship between the attorney and his client is one of en toto privileged confidential communication.

For the best interest of the psychiatric patient and for a more effective psychiatric therapy, the relationship of the physician and patient should be revised and placed upon a similar basis of an en toto confidential communication by statute.

Maier I. Tuchler, M.D.

WHAT KIND OF MEMORIAL FOR TOM DOOLEY?

Tom Dooley was honored in June of 1960 at a dinner which was held in New York City. Remarks made by the Hon. Khamchan Pradith, the former Chargé d'Affaires of the Embassy of Laos, at that testimonial dinner are significant: "To the four corners of the Kingdom of Laos and beyond its frontiers, the name of Dr. Thomas A. Dooley has become well known to everybody. He is, for our generation, the symbol of enthusiasm, compassion, and sacrifice. We love him because he lives our life, he eats our food, he cures our sick people, he suffers what we are suffering. In the eyes of our people from all walks of life, this wonderful American is truly great."

Compare this image of an American with that described by Fr. Dunne, S.J., in the May 13, 1961, issue of *America*. (He in turn credits *Time* of 8/8/60 with the original quotation given below.) Fr. Dunne notes that the average American is puzzled by all the Anti-Americanism prevalent in the world today. In an attempt to explain to Americans why we are so unpopular, Fr. Dunne says: "Consider an American bean grower who is fighting efforts to provide a minimum of schooling for the children of migrant farm workers who uses as full-fledged field hands children only nine years of age, children doomed by illiteracy to dreary servitude for life. Says the bean grower (from *Time* of 8-8-60): 'When a migrant goes to school beyond the seventh grade, you've runined a good bean picker.'

(Still quoting Fr. Dunne:) "There are perhaps no people more generous with their wealth than Americans but the image which impinges itself upon the world consciousness is not one of American largesse. It is rather the image of the calculating and unfeeling bean grower... It is not the exceptional Tom Dooley, but the hard-nosed bean grower who appears to be the normal product and expression of the social and economic system which has reached its highest development in America. This, as much as anything else, is what 'colonialism' and 'imperialism' mean to downtrodden people everywhere. This is why there is so much anti-Americanism about."

Return again to the more pleasing image of an American, that of the late Tom Dooley. Tom is well remembered for the work he performed in Laos. Less well known is the fact that he was also co-founder of MEDICO, a deed which may prove to have more lasting and far-reaching effects than the work in Laos. Tom's partner in establishing MEDICO (Medical International Cooperation Organization) was Peter D. Comanduras, M.D., from 1950-1958 Associate Professor of Medicine at George Washington University Medical School, and now Secretary-General of the organization he helped to found.

Dr. Comanduras, together with Malcolm Dooley, Tom's brother is carrying on the work of MEDICO. Arthur M. Godfrey is acting General Chairman of the "Dr. Tom Dooley Tribute Fund for Medico." a group whose goal is to raise one million dollars through private sources for MEDICO. Honorary Co-Chairmen of this fund are Pres. John F. Kennedy and the Hon. Dwight D. Eisenhower. The money will be used to continue and expand current projects, and start new programs in countries which seek such assistance. It is well worth emphasizing that MEDICO does not establish its hospital-clinics in any country until it has been invited to do so by the host government. As of March 13, 1961, 20 governments had asked for MEDICO assistance to alleviate appalling health conditions among their populations.

On May 2, Dr. Comanduras addressed the Phoenix Executives Club. He described vividly

the conditions in countries where MEDICO is now at work and in others where MEDICO is needed. He showed how Americans can help through MEDICO to solve a part of the problem in these countries undergoing a "Revolution of Rising Expectations."

Significantly, Dr. Comanduras did not make an appeal for funds at that dinner. He depicted the situation and left the action up to the audience. He concluded with an appeal for people rather than money. Althongh Dr. Comanduras did not say it, it is abundantly clear that from those who cannot contribute their services until later, money is needed as a substitute now.

MEDICO is an outfit to whose aims almost every one of us can subscribe. It aids the sick in the developing countries. It shows these people how they can become medically self-sufficient. It shows them that Americans care. It is not affiliated with any religious or political organization. It has no affiliation with any branch of the U. S. Government.

MEDICO provides an answer for those people who are wondering how they can help America today. While it does not solve directly the problem posed by the American bean grower, it does place an obligation upon us to meet his challenge. Otherwise, MEDICO's image of the generous, compassionate American will be a false one, doomed to ultimate failure. But if we resolve to eliminate these vestiges of colonialism and imperialism persisting within our borders, we can with a clear conscience undertake the assignment of changing our image abroad. And certainly there is presently no better means of effecting this change than through Tom Dooley's organization.

It would be a real tribute to Tom if the medical profession would assume an active role of leadership in this matter of educating our underprivileged brothers. As Dr. Comanduras says, "If every man could mend a man, then the whole world would be mended." And in doing this we would show again that we can act effectively and affirmatively in an area where that kind of action is urgently needed.

Tom Dooley has told us how to show people in developing countries that Americans care about them. He has demonstrated by personal example that the method is effective. Let it be our personal tribute to his memory that we heed Tom's message.

Wallace A. Reed, M. D.

Contributions can be sent to:
Mr. Arthur M. Godfrey, Chairman
Dr. Tom Dooley Tribute Fund for MEDICO
420 Lexington Avenue
New York 17, N. Y.

ANNUAL MEETING OF THE ARIZONA PUBLIC HEALTH ASSOCIATION — 1961

Some 150 members of this Association assembled at the Grand Canyon, South Rim, for the annual meeting held from May 17th to 19th. The theme for the meeting was METROPOLITANISM - A NEW FRONTIER IN ARIZONA.

Special guests and speakers at the conference were Dr. Berwyn F. Mattison, Executive Director of the American Public Health Association, New York City; Dr. James K. Shafer, Chief, Division of Community Health Pratice, USPHS, Washington, D. C.; Senator Glenn Blansett, Navajo County; Senator J. M. Richards, Navajo County; Mr. Roy Young, Assistant General Manager, Kennecott Copper Co., Hayden; Mr. Sam Maxcy, Executive Secretary, Maricopa County Farm Bureau; Mr. S. E. Morris, Administrator, Good Samaritan Hospital, Phoenix; Mr. Charles Pine, Valley National Bank, Phoenix; Mr. Milton Gan, of the Phoenix Community Council; Mr. J. J. DeBolske, of the League of Arizona Cities and Towns; Miss Charlotte Buchen, of the *Arizona Republic*; Mr. Sylvain Schnaittacher, of the International Union of Mine, Mill and Smelter Workers; and Mr. Marshall B. Willis, of the El Paso Natural Gas Company; Mrs. Beatrice Evans, R.N., of Flagstaff; and Mr. E. S. Edmonson; Director of Welfare, Nogales.

Dr. Shafer in the keynote address called attention to the rapidly increasing urbanization in the U.S.A. By 1900, the country had only four metropolitan cities containing more than one million inhabitants and only 21 per cent of the population lived in urban communities. By 1950, there were no less than 14 metropolitan areas of more than a million people. By the year 2000, it is forecast the United States may have 320 million

people, and one- third of these will live in ten super-metropolitan areas. At that time some 85 per cent of the population will be urban.

Haphazard growth has meant poor community development and many difficult problems. Public Health leaders must participate more in planning many aspects of metropolitan growth, such as water supply, sewage disposal, medical care facilities, milk supply and many others.

Most of the program consisted of panel discussions on such topics as the role of Industry, Management and Labor in Public Health. A considerable discussion centered around air pollution. Senator Blansett defended stoutly his vote in the resent legislature against the air pollution bill.

Another vigorous discussion arose over the varied aspects of medical care for the indigent. The costs of this program is giving concern in all countics. It is obvious that health workers must be more concerned in this community problem.

At the annual banquet of the Association special Certificates of Honor were presented to Dr. Clarence G. Salsbury, retiring Commissioner of Health of Arizona, and to Dr. Esther M. Closson, retiring Director of the Pima County Health Department.

Mr. George W. Marx, of the State Health Department, presided over the conference. The incoming President of the Association is Dr. Hugh H. Smith, of Tucson. Dr. S. F. Farnsworth, Director of Maricopa Health Department, is the President-Elect. The next annual meeting of the Association is to be in Tucson in May, 1962.

Hugh H. Smith, M.D., M.P.H.

BLOOD BANKING

Additional warning against the use of the single transfusion is made again in a recent brochure FACTS ABOUT BLOOD BANKING, published by the American Association of Blood Banks. "Good transfusion practice underscores the importance of the 'controlled blood program' in which transfusion therapy is used only in cases of obvious need. The use of a single transfusion merely to speed recuperation is not encouraged."

The American Association of Blood Banks, organized in 1947, is the national group representing hospital and community blood banks and transfusion services in the United States. These centers are supplying about 52% of the 5,500,000 units of blood that are used annually in this country, with the American Red Cross furnishing about 48%. A reciprocity agreement between the AABB and the Red Cross provides for a nationwide exchange of donor replacement credits between AABB member banks and ARC regional blood centers.

The pamphlet points out that American Association of Blood Banks members operate on the principle that blood transfusions are an individual patient responsibility, with family or friends making donations to replace the blood used. The ARC program has as its premise that providing blood is primarily a community responsibility and their blood collection activity is financed by public contributions and a service charge for each unit of blood, encouraging volunteer donations as a source of transfusions.

"The new dimensions of today's need for blood," the booklet states, "have far outstripped the amount procurable through any single agency."

Allan B. Carter, M.D.

AMA — PR MANUALS

A new working manual for medical societies in the field of aging, "Unlock Your Community Resources," is set for distribution. Emphasizing the non-legislative, community service approach to the problems of aging, this manual gives specific recommendations on how to set up a sound community-wide program in the field of aging.

Following is a list of other new PR pamphlets and booklets designed to further good doctor-patient relations, which are again available in quantity from AMA's Special Services Department. Most of them are recommended for distribution to patients.

"To All My Patients" — 12-page pamphlet designed to give patients a better understanding of various aspects of medical care.

"Winning Ways With Patients," — 24-page manual on the human and business side of medi-

cal practice, designed for the doctor's receptionist, nurse and secretary.

"Do You Like To Make Decisions?," — give-away leaflet discussing the importance of good doctor-patient relationship.

"The Fifth Freedom," — give-away leaflet stressing the value of the close relationship existing between doctor and patient when the patient can choose his own family doctor.

"Why Wait?," — give-away leaflet urging everyone to have a personal family doctor and not to wait until illness strikes before acquiring one.

"What Everyone Should Know About Doctors," — 16-page booklet outlining the extent of a doctor's education, routine examinations of patients, winding up with a plea for everyone to find a family doctor. Limited quantities available but designed for patients.

"To All My Patients" (plaque), for sale at one dollar, postage paid, through the AMA Order Department. Urges patients to feel free to ask their doctor any questions about his services or fees. For display on wall or desk.

"Rx — A Prescription for Growth," — AMA's new membership brochure calling for physicians to take an active interest in their national organization and the issues facing the profession today. Also listed are many of the AMA's services for both profession and public, and its new 10-point action program for 1961.

BLUE CROSS — BLUE SHIELD

The medical profession in 1960 received more than $731,000,000 from the 74 nationwide Blue Shield Plans for care rendered members, the National Association of Blue Shield Plans reported.

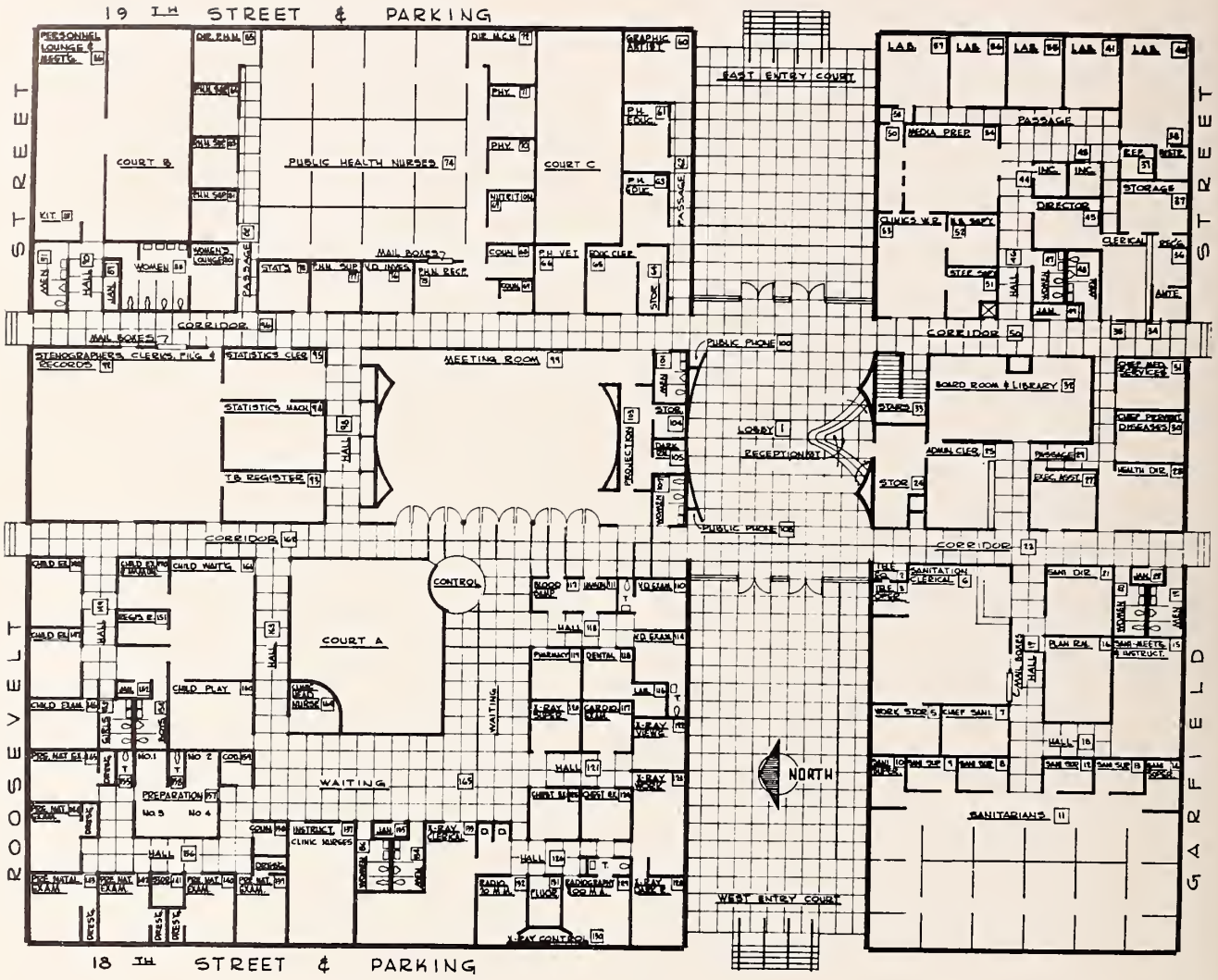
"The $731,131,187 paid to physicians represented an all-time high for a one-year period, and also represented nearly 90 per cent of the total 1960 income of these medical-surgical plans," L. Donald Lau, executive director of the Arizona Plan, stated. At the same time, the Blue Shield Plans devoted less than 10 per cent of their total 1960 income to administrative expenses.

In its report, the national association indicated that Blue Shield payments to the medical profession had increased from nearly $116,000,000 in 1950 to the 1960 figure of $731,131,187.

"The impressive increase in payments to the medical profession over the years on behalf of Blue Shield members clearly reflects the ability of these medical-surgical Plans to develop realistic and flexible programs in order to keep pace with the tremendous advances in our medical care system," Lau added. "At the same time," Lau concluded, "our Plans have annually expended a lesser percentage of their income dollar to administrative expenses in the face of spiralling inflation and the commensurate cost of doing business."



The new Maricopa County Health Department building.



THE NEW MARICOPA COUNTY HEALTH DEPARTMENT BUILDING

Recently, a young visitor touring the new Maricopa County Health Department, exclaimed, "Boy, it looks like a million dollars." It does — and it is. The total cost of the land, building, and equipment was $1,018,885.

Situated on a 3½ acre lot, the building is one story, with one-half basement, and has 40,000 square feet of floor space. It is supported essentially by exterior columns with no weight bearing walls, which allows for maximum flexibility. Many cabinets, shelves, and desks are built in, not only adding to beauty of design, but to space conservation and economy.

The exterior of the building is unusual and striking with the windowless, patterned concrete walls and steel supporting columns. In spite of the absence of exterior windows, there is a comfortable feeling of light and spaciousness inside due to enclosed courts, indirect lighting, and complete central air conditioning.

In addition to complete administrative, clinic, and x-ray facilities, the building houses an all new laboratory which has enabled the department to increase and expand its services by doing routine serology, bacteriology, and other tests in the fields of water, milk, tuberculosis, and other communicable diseases.

Headquarters for 165 public health workers, this building brought the county health department staff together for the first time. After the



A free form reception desk in the lobby offers easy access to the visitor as he approaches from either the east or west entrance.

merger of the City and County Health Departments in 1957, space in the main office was inadequate, forcing the staff to be split up into two buildings some distance apart. Neither provided even minimum desirable public health facilities. The new building provides the facilities essential to conducting a good public health program.

CHLORDIAZEPOXIDE (LIBRIUM) POISONING

Chlordiazepoxide (Librium) is one of the newer psychopharmacologic agents. Recently a number of poisonings involving massive doses of this drug have been reported in the literature (1, 2). One report(1) concerned two cases of unsuccessful suicidal attempts with chlordiazepoxide. One of the victims was a 44-year-old white female who ingested 875 mg of the compound in one dose. She did not inform anyone of her action until the following day. She noted no ill effects except for ataxia and dysarthria which abated within 48 hours. The other patient, a 22-year-old white male with schizophrenia, consumed 1,630 mg of the drug in a 24 hour period. He displayed only ataxia and drowsiness and he was given coffee as the sole therapeutic measure. Apparent recovery occurred within 24 hours. Gastric lavage was not performed in either of the above patients, since many hours had passed between the time of the ingestion of the drug and the discovery of the incident.

Another clinical report(2) presents the case history of a 47-year-old female (diagnosed as paranoid schizophrenia) who intentionally ingested 1,150 mg of chlordiazepoxide in a period of 20 minutes. The overdose was followed by

drowsiness and the patient fell asleep. Six hours later she awoke and performed household duties despite an unsteady gait, thickening of speech, and dysarthria. These symptoms became intensified following ingestion of whiskey. No treatment was given, since the suicidal attempt was not discovered until 45 hours after the incident. The patient recovered with no evidence of permanent damage.

These case reports, although limited in number, would tend to indicate that chlordiazepoxide is less toxic than many of the other tranquilizer drugs which have been reported to produce severe extrapyramidal symptoms, central nervous system depression and hypotension following overdose(3,4,5).

The reports of these acute poisonings from the drug chlordiazepoxide should prove useful in the management of future poisonings following overdose as well as accidental ingestion of the drug by children.

HYPOGLYCEMIA – A RESULT OF ALCOHOL POISONING IN CHILDREN

Although acute ethanol poisoning in children is infrequent, it seems important to call attention to Cummins' recent clinical report(6) on the subject because of a little known aspect of alcohol poisoning, hypoglycemia. Cummins described two cases in which small children ingested alcoholic fluids. The first case involves a 6-year-old Negro boy who ingested an unknown quantity of gin. The patient became comatose and was in a state of constant convulsions. Amobarbital was administered in an attempt to control the seizures. Approximately 11½ hours following ingestion of the gin, the blood alcohol level was 20 mg per cent and the blood sugar level was only 15 mg per cent. Following intravenous injection of 50 ml of a 50% glucose solution, there was a marked decrease in convulsive activity. However, infrequent focal seizures, mainly involving the right arm and face, continued and additional amobarbital was given intravenously to control the seizures. Temperature, blood pressure, pulse, and respiration remained normal but the patient continued to be deeply comatose. Approximately 19½ hours after poisoning, the patient suddenly developed respiratory and cardiocascular failure. Despite measures to maintain respiration and blood pressure, the patient died approximately 36 hours after poisoning.

The second case involved a 3-year-old Negro girl who ingested approximately 20 ml of cologne (85% denatured alcohol). This patient also became comatose and subsequently exhibited convulsions. Her blood sugar level, taken immediately after the first bout of seizures, was 22.5 mg per cent. During a second bout of convulsions she was given intravenously 10 ml of 50% glucose solution and 5 ml of calcium gluconate solution, whereupon all convulsive movements were terminated. Because the child was somewhat acidotic, she was also given M/6 sodium lactate and 10% glucose by intravenous drip. She recovered and was discharged from the hospital three days after poisoning.

It is highly doubtful that central depressants have a place in the treatment of acute alcohol poisoning because of the danger of synergism and, consequently, added depression. However, the above case reports do suggest severe hypoglycemia as a possible feature of alcohol poisoning and indicate the need for blood glucose determinations and, possibly, the need for glucose therapy in the treatment of acute ethanol poisoning.

STATISTICS OF 63 POISONING CASES IN ARIZONA REPORTED DURING APRIL 1961

AGE:

73.0% involved under 5 year age group	(46)
1.6% involved 6 to 15 year age group	(1)
14.2% involved 16 to 30 year age group	(9)
4.8% involved 31 to 45 year age group	(3)
4.8% involved over 45 year age group	(3)
1.6% were not reported	(1)

NATURE OF INCIDENT:

76.2% accidental	(48)
17.5% intentional	(11)
6.3% other	(4)

TIME OF DAY:

38.1% occurred between 6 a.m. and noon	(24)
34.9% occurred between noon and 6 p.m.	(22)
15.9% occurred between 6 p.m. and midnight	(10)
1.6% occurred between midnight and 6 a.m.	(1)
9.5% were not reported	(6)

OUTCOME:

98.4% recovery	(62)
1.6% fatal	(1)

CAUSATIVE AGENTS:

Internal Medicines	Number	Percent
Aspirin	11	16.2
Other Analgesics	1	1.5
Barbiturates	2	2.9
Antihistamines	1	1.5
Laxatives	0	0.0
Cough Medicine	2	2.9
Tranquilizers	4	5.9
Others	8	11.8
Subtotal	29	42.7

External Medicines		
Liniment	1	1.5
Antiseptics	0	0.0
Others	3	4.4
Subtotal	4	5.9
Household Preparations		
Soaps, Detergents, etc.	1	1.5
Disinfectants	0	0.0
Bleach	3	4.4
Lye, corrosives, drain cleaners	1	1.5
Furniture and floor polish	1	1.5
Subtotal	6	8.9
Petroleum Distillates		
Kerosene	3	4.4
Gasoline	4	5.9
Others	2	2.9
Subtotal	9	13.2
Cosmetics	4	5.9
Pesticides		
Insecticides	2	2.9
Rodenticides	0	0.0
Others	0	0.0
Subtotal	2	2.9
Paints, Varnishes, Solvents, etc.	7	10.3
Plants	0	0.0
Miscellaneous	5	7.3
Unspecified	2	2.9
TOTAL	68*	100.0

*The total number of causative agents exceeds the actual number of poisoning cases since in certain individual poisoning incidents more than one agent was involved.

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BOARD OF MEDICAL EXAMINERS STATE OF ARIZONA

The Board of Medical Examiners of the State of Arizona at a regular meeting held Saturday, April 15, 1961, issued certificates to practice medicine and surgery in this State to the following doctors of medicine:

BEST, Joseph Warren (GP), Div. 9126, USNTC, San Diego 33, California. BEZMAN, Harry S. (GP), 507 Second, Traer, Iowa. BIVINGS, Frank Gary (S), Ellis Fischel State Cancer Hosp., Columbia, Missouri.

BLANKENSHIP, John Frank (GP), 119 W. McDowell Road, Scottsdale, Arizona. BOAS, Richard Nils (Pd), 316 Knoedler Road, Pittsburgh, Pennsylvania. BOUTSELIS, John George (ObG), 926 E. McDowell Road, Phoenix, Arizona. BROWN, Lee Buckingham (GS-TS), 1130 E. McDowell Road, Phoenix, Arizona.

CHAKER, Henry (GP-Pd), 2634 Yorba Street, San Francisco, California.

DALY, David DeRouen (N), 550 West Thomas Road, Phoenix, Arizona. DONOVAN, Raymond Flowers (GS), 108 N. 4th Street, Watseka, Illinois.

EMORY, Walter Kent (GP), 6838 N. 23rd Avenue, Phoenix, Arizona. ERICKSON, Alfonso Howard (Anes), 5802 West Camelback Road, Phoenix, Arizona.

FETTER, Mary (Path), 10042 North 7th Place, Phoenix, Arizona. FOSTER, Robert Francis (I-Ca), 1538 Medical Dental Building, Seattle, Wash. FRIEDLAENDER, Alex Seymour (A), 10300 W. Seven Mile Road, Detroit, Michigan. FRIEDMAN, Glenn Martin (Pd), 5716 Academy Street, Tucson, Arizona.

GREEN, Joseph Martin (Child Psychiatry), 801 South Prudence Road, Tucson, Arizona.

HARRIS, Jr., Clifford John (I), Modesto State Hospital, Modesto, California. HARRIS, Keith Harvey (GS), 550 West Thomas Road, Phoenix, Arizona. HAWLICK, Garfield Francis (Pd-GP), 3410 St. Clair, Pueblo, Colorado. HOLIFIELD, Jack Rodney (GP), 227 Church, Tiptonville, Tennessee. HOLMSTRAND, Kaj Erik Henry (PlS), 1503 Carew Tower, Cincinnati, Ohio.

JOHNS, Robert Franklyn (ObG), 454 Greenbriar Lane, Dallas, Texas. JOHNSON, Robert Adair (Or), 2620 North Third St., Phoenix,

Arizona. JOHNSTON, Richard Charles (GP), 2730 Zuni, Glendale, Arizona. JOSEPH, Samuel Richard (GS), 215 Alandale Place, Tucson, Arizona. JURGENSEN, William Walter (R), 617 Medical Arts Building, Omaha, Nebraska.

KABINS, Sherwin Allan (I), 3619 Zuni, Glendale, Arizona. KELSEY, Lawrence Edmond (GP), 102 W. Keim Drive, Phoenix, Arizona. KENNIKER, Eldine Loraine (ObG), 1514 Anacapa, Santa Barbara, California.

LIVINGSTON, Harry Hannan (S-TS), 800 McKinley Avenue, Canton, Ohio. McCOMBS, Rollin Koenig (I), 1802 Tulane Avenue, Long Beach, California. MALLOW, Harvey Gustave Emil (GS-GP), 210 Madison Avenue, Fort Atkinson, Wisconsin. MARTIN, Homer Delmar (GP), 24 Randolph Avenue, Elkins, West Virginia. MERRITT, Edward George (GP), 507 Main Street, Dolores, Colorado. MORACA, Patrick Pasqualino (Anes), 1313 North Second Street, Phoenix, Arizona. MORLEY, Buel (ObG), 636 Church Street, Evanston, Illinois. MOTTER, George Namen (R), 119 W. McDowell Road, Scottsdale, Arizona.

NELSON, Robert Lee (ObG), Scottsdale Medical Center, Scottsdale, Arizona. NENAD, Robert Eugene (I), 2021 North Central Avenue, Phoenix, Arizona.

OBLEY, Fred Allen (GP), 329 Fourth Street, Ellwood City, Pennsylvania. O'LEARY, Francis Bernard (GP), Sibley, Iowa.

PAUL, William Diamond (I), 1430 Cottingham Court, Columbus, Ohio.

RIGG, Jr., James Paul (Oalr-GP), 521 Rood Avenue, Grand Junction, Colorado. RIPLEY, Loyd Gale (GP), 2805 Sioux, Glendale, Arizona. RUDERSDORF, Howard Edward (GP), 308 Toy National Bank Bldg., Sioux City, Ia.. RUNFOLA, Anthony Vincent (GP), 63 West Quaker, Orchard Park, New York.

SHIRER, Jr., Benjamin Franklin (GP), 6 West Wilson, Batavia, Illinois. SIERAKOWSKI, Frances (GP), 4752 E. Indian School Rd., Phoenix, Arizona. SMILEY, Leonard Victor (U), 960 Grand Concourse, New York, New York. SMITH, Harry Charles (GP), 610 Ninth Street, Douglas, Arizona. STEELE, Clarence Hart (ALR), 765 Brotherhood Bldg., Kansas City, Kansas. STEWART, William Floyd (GP), 8 North Main Street, Rittman, Ohio. SUSONG, William Anderson (ObG), 1033 E. McDowell Road, Phoenix, Arizona.

TENNANT, Rose (Path), St. Joseph's Hospital, Phoenix, Arizona.

VALLE, William (Guglielmo) GP-ObG), 1318 West Moreland, Phoenix, Arizona. VAN ANTWERP, Jr., James Dillier (P), 38th and Rainbow, Kansas City, Missouri. VOGT, Anne Marie Stupnicki (GP), 2405 East Fillmore, Phoenix, Arizona.

WALSKE, Benedict Raymond (S-TS), VA Hospital, Greenway Station, Tucson, Ariz. WEBB, Dale Fleming (S), 645 Seventh Avenue, Yuma, Arizona.

ARTIFICIAL INSEMINATION

"The Roman Catholic Church is against it. The two other major faiths are for it. Organized medicine is officially noncommital. And the law just is not there."

(Medicolegal Digest)

LAUNCHING OF NEW DRUG FIRM

One of the features of the recent June American Medical Association Meeting in New York was that it served as a launching pad for the orbiting of a new drug manufacturing enterprise. This was the introduction of Philips Roxane, Inc., to the American pharmaceutical industry. The AMA considered it something of a precedent that a company chose this annual conclave to make its initial bow to the medical profession.

By keeping its presentation purely institutional and in a setting of a Dutch garden, symbolic of its origins, the company was able to introduce itself on a broad platform especially suited to informing the profession of its complex set-up. Philips Roxane rises out of a vast network of technological operations here and abroad from which its extensive plans for pharmaceutical research and development have been drawn. In the background are a number of corporate operations with worldwide recognition and resources. Chief among these is the Philips Electronics and Pharmaceutical Industries Corp. and N. V. Philips-Duphar of The Netherlands. The diversified electronic, pharmaceutical, and chemical output of these operations have international distribution. Philips-Duphar has gained recognition in other areas of human medicine, in animal and plant pharmaceuticals. Currently being developed are studies in organic synthesis and radioactive isotopes.

In completing its plans for full-scale operation, Philips Roxane has just erected a plant at its headquarters location in St. Joseph, Missouri. Among its present pharmaceutical projects is the development of a measles vaccine, now in extensive clinical trial, and for which patent applications have been filed.

(From News Release, Columbia Pharmacal Co.
Affiliate of Philpis Roxane, Inc., Columbus 16, Ohio)

See Advertisement Page 33A



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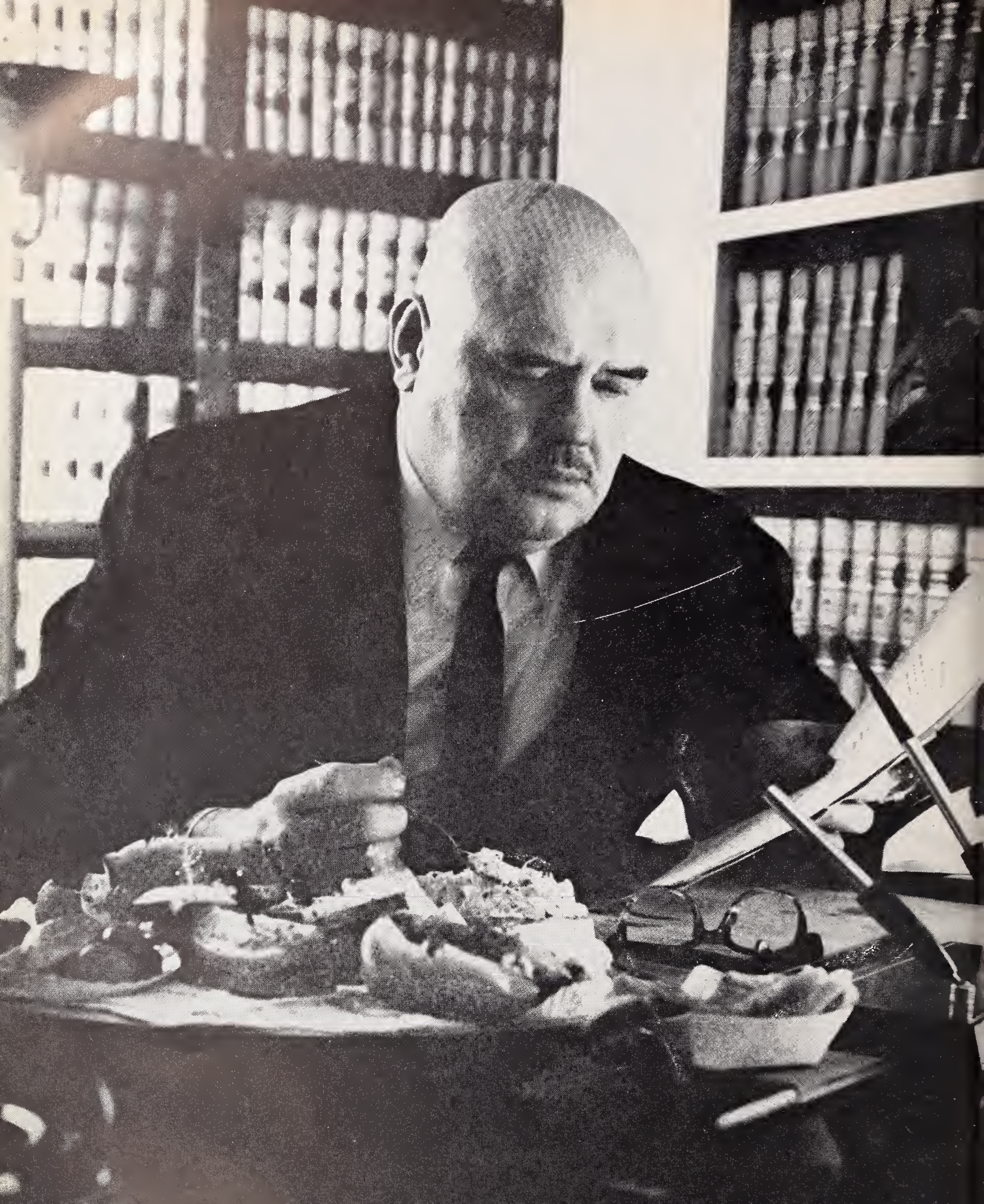
LAS ENCINAS, sheltered in its own landscaped park, is conveniently located in Pasadena. Fully equipped for the clinical study, diagnosis and care of medical and emotional problems. Full-time staff of certified specialists in surgery, medicine and psychiatry. Rooms, apartments and suites available in main building or attractive cottages.

CHARLES W. THOMPSON, M.D., F.A.C.P., Medical Director

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WRITE FOR OUR ILLUSTRATED BOOKLET



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ARISTOCORT Triamcinolone has long since proved its *unsurpassed efficacy and relative safety* in treating rheumatoid arthritis. Mounting clinical evidence has shown that ARISTOCORT is also highly valuable for the "special-problem" arthritic – the patient who, because of certain complications, was hitherto considered a poor candidate for corticosteroids.

for example:

SPECIAL PROBLEM: ANXIETY-TENSION

When triamcinolone was used, euphoria and psychic unrest rarely occurred. (McGavack, T. H.: *Clin. Med.* 6:997 [June] 1959.)

SPECIAL PROBLEM: OVERWEIGHT

No patient developed voracious appetite on triamcinolone. Preferable for the overweight person whose appetite is undesirably stimulated by other steroids. (Freyberg, R. H.; Berntsen, C. A., Jr., and Hellman, L.: *Arthritis & Rheumatism* 1:215 [June] 1958.)

SPECIAL PROBLEM: EDEMA

Since it does not produce edema, triamcinolone is useful in rheumatoid arthritis patients with cardiac decompensation who need steroid therapy. (Hollander, J. L.: *J.A.M.A.* 172:306 [Jan. 23] 1960.)

SPECIAL PROBLEM: HYPERTENSION

Triamcinolone may be included among the currently available antirheumatic steroids having the least tendency to cause sodium retention. (Ward, L. E.: *J.A.M.A.* 170:1318 [July 11] 1959.)

Hypertension did not result from triamcinolone therapy. Existing hypertension was reduced sometimes. This may have been due to lack of sodium retention. (Freyberg, R. H.; Berntsen, C. A., Jr., and Hellman, L.: *Arthritis & Rheumatism* 1:215 [June] 1958.)

Precautions: Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. In the treatment of rheumatoid arthritis, dosage should be individualized and kept at the lowest level needed to control symptoms. Dosage should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

Supplied: Scored tablets—1 mg. (yellow); 2 mg. (pink); 4 mg. (white); 16 mg. (white).
Also available—syrup, parenteral and various topical forms.

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Request complete information on indications, dosage, precautions and contraindications from your Lederle representative or write to Medical Advisory Department.

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Reprints

Plague Remains Modern Hazard

Vigilance against plague must not be relaxed, despite modern advances in fighting the disease, Dr. Karl Friederich Meyer of the University of California cautioned in his acceptance speech at the University of Chicago, where he received the Howard Taylor Ricketts Memorial Award for 1960 on June 6.

"What in 1928 was thought to be a localized epizootic entity in California," he said, "is now known to extend through 131 counties in 15 western States, an area comprising 40 percent of the continental United States from the Pacific Coast to the 100th meridan.

"During the period 1908-51, 98 cases (60 deaths) in eight western States have been contracted from wild rodents. There is every reason to predict that in that area, sporadic cases of bubonic plague may make an annual appearance."

Dr. Meyer, who is director emeritus of the George Williams Hooper Foundation for Medical Research and professor emeritus of experimental pathology at the University of California, attributed the special vulnerability in that State to the booming population. Although the building of suburbs will keep away appreciable wild rodent populations, he said, "There is an initial period of joint tenancy by people and wild and commensal rodents — a condition theoretically ideal for the propagation of plague."

Wholesale destruction of the diseased rodent population is not always possible as a preventive measure, owing to geographic and financial considerations, Dr. Meyer added.

Long thought transmissible only through rat fleas, plague is now known to spread through exchange of fleas of many wild rodents and other small animals, including ground squirrels, wood rats, chipmunks, prairie dogs, and field mice, according to Dr. Meyer.

Dr. Meyer traced the course of the plague in the United States since it was first diagnosed in a human in 1900 and in rats in 1902.

Plague reservoirs of rodents exist in South Africa, East Africa, Iran, and the Soviet Union. Soviet health workers have eliminated the danger on the fringes of their vast wild rodent area, but fear that plague may break out again or be reimported, Dr. Meyer said.

The sulfa drugs and the antibiotics have proved effective in treatment, allaying some of the panic caused by the appearance of human plague. Plague vaccines have been developed, but a dependable immunity cannot be achieved with a single injection, he added.

"Active immunization in the face of or during an epidemic is of little or no value, but a persistent long range vaccination program could serve as a supportive preventive measure." Modern chemotherapy is more effective in the vaccinated, Dr. Meyer believes.

Reprinted from Public Health Reports, Vol. 75, No. 11, November 1960 by permission.

CURRENT STATES OF SYPHILIS IN THE UNITED STATES

William J. Brown, M.D.
Chief, Venereal Disease Branch
Communicable Disease Center
Public Health Service

Syphilis remains a public health problem of major and increasing proportions.

A total of 120,000 cases were reported among civilians alone in 1959, of which 8,200 were in the early infectious stages.

Reported cases of infectious syphilis have been increasingly alarming since 1957. Moreover, there is no indication that the trend is changing.

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Almost 42 percent more infectious syphilis was reported from July to December of 1959 than was reported during the same 6 months of the previous year. We estimate the reservoir of untreated syphilitics today at 1,200,000 cases and that the true annual incidence is 60,000 cases.

Already, the cost of 33,000 paretics in tax-supported mental institutions is $48 million a year. And if we do not find and treat the 1¼ million untreated, we may expect an additional 178,000 to develop late disabling manifestations. This will include 52,800 more cases of paresis and meningovascular syphilis requiring about 530,000 years of hospitalization at a cost of almost a billion dollars. It will also include 23,000 cases of tabes, 6,000 of optic atrophy, and 91,000 of cardiovascular syphilis.

Clearly, at this point syphilis is not under control. This is not to say that we have not made progress against syphilis in this country, because we have. For example, deaths from syphilis have dropped from 14,000 to 4,000 a year, and infant deaths due to syphilis have dropped from 574 to fewer than 1 per 100,000 live births.

Fortunately, syphilis, for several reasons, is not spreading in geometrical progression, but it does seem to be spreading faster than we can find and treat it. A variety of factors, such as environment, economics, and social structure, may influence the spread of syphilis in a population. Some syphilitics, for example, do not have opportunity for further intercourse while they are infected. Moreover, syphilis is not contracted at every exposure to infection. And also, some chains of infection and chains of contact double back on themselves in large part and are contained within certain social groups.

Venereal disease control always has depended upon research to develop techniques of diagnosis and treatment, and upon a vigorous case finding program to find infected persons and bring them to treatment faster than infection could spread. I believe that the late Dr. Joseph Earl Moore, in paraphrasing Frost on tuberculosis, was correct when he said, ". . . it is not necessary that transmission be immediately and completely prevented. If, in successive periods of time, the number of infectious hosts is continuously reduced, the end result . . . if continued long enough, must be the extermination of the treponeme of syphilis."

Today, techniques of both diagnosis and treatment have been developed almost to the ultimate. Epidemiology, however, has lagged behind, particularly among patients of private physicians. Consequently, a large part of our national program is now being oriented to the development of working relationships between public health and the private practitioner.

We have had some measure of success in persuading private physicians to report their cases and to have them interviewed by a trained epidemiologist. The Pennsylvania program is a good example. Reporting by private physicians in Pennsylvania increased more than 10 times from 1958 through 1959.

In 1958, the Louisiana State Health Department began to stimulate reporting among private physicians through personal visits, talks at medical society meetings, and followup of reactive serologies from public and private laboratories and hospitals. In two corresponding 9-month periods, cases of primary and secondary syphilis reported by private physicians rose from 0 to 58. During the same two periods, early latent cases reported by private physicians increased from 3 to 417.

Kansas is another typical example of improved interviewing among primary and secondary syphilis patients of private physicians. Morbidity reporting of early lesion syphilis treated by private physicians in Kansas rose from 11 cases in 1958 to 50 cases in 1959. Further, the number of privately treated patients with primary and secondary syphilis who were interviewed during the same period increased from 8 to 38. As a result, contacts of private physicians' patients who were interviewed increased from 43, in which there were no cases of infectious syphilis, to 147, which included 14 with primary and secondary syphilis.

Overall improvement has been made in interviewing privately treated primary and secondary syphilis patients across the country. In the 5-year period ending in 1958, an average of 17 percent of these patients were interviewed per year by a trained interviewer. During 1959, this percentage was still increasing. Forty-nine percent of all patients with infectious syphilis reported by private physicians were interviewed for sex contacts by a trained interviewer.

From the standpoint of epidemiology, success with the patient treated by a private physician

equals that of the public clinic patient.

One question with respect to syphilis morbidity is raised sooner or later: Are these increases "real" increases in incidence, or are they only the results of improved casefinding and reporting? As we see it, increased morbidity at this point reflects both increased incidence and improved reporting. But we have no way of knowing how much is attributable to either.

However, there is one answer to this question. Regardless of what morbidity reports represent, the patients are real, they need treatment, and their contacts need examination. This cannot be denied.

In fact, it may be expected that if our present efforts continue successfully, as I have every hope that they will, morbidity figures will go a lot higher than they are now. But, sooner or later, a point will be reached after which any amount of epidemiological effort can result only in a plunge toward eradication.



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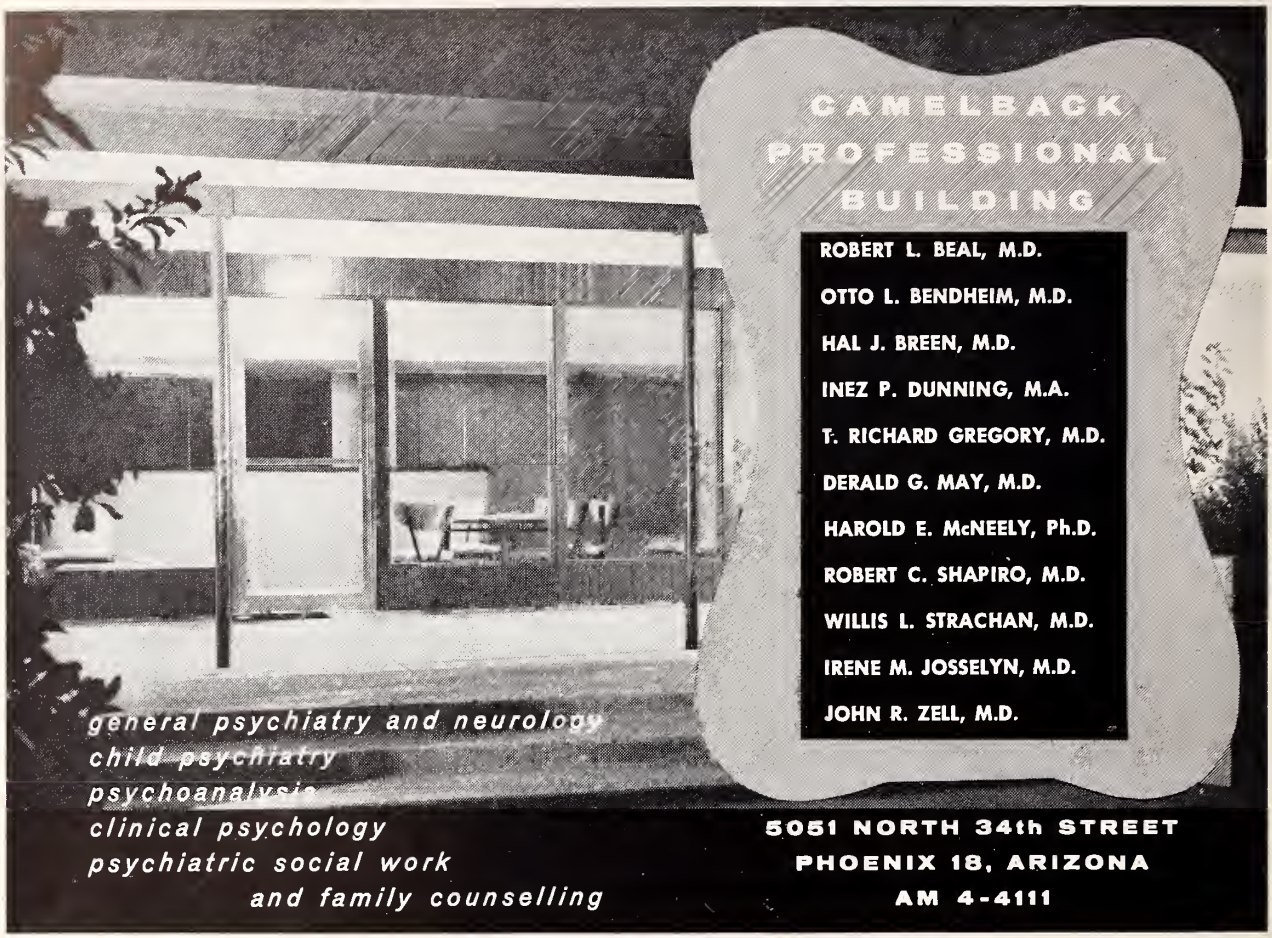
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Breon, George A. & Co. 17A
Burroughs-Wellcome Co., Inc. 20A
Butler's Rest Home 65A

Camelback Hospital 8A
Camelback Professional Building 64A
Case, G. M., Laboratories, Inc. 23A
Classified Advertising 63A

Doctors Directory 65A

Franklin Hospital 65A

Hillcrest Medical Center 65A
Hobby Horse Ranch School 63A
H. B. A. Life Insurance Co. 34A

Las Encinas Sanitarium 57A
Lederle Laboratories 12A, 58A, 59A
Lilly, Eli & Co. Cover, 22A
Loftin's Business Forms 63A
Loma Linda Food Co. 45A
Lorillard, P. & Co. 18A

Mead, Johnson & Co. Back Cover
National Casualty Co. 62A
Nurses Directory 65A

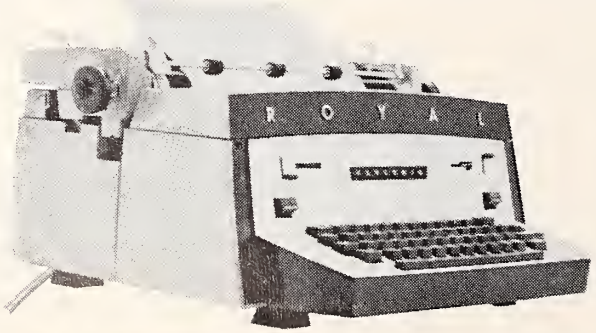
Parke-Davis & Co. Inside Front Cover, 1A
P.B.S.W. Supply & Equipment Co. 72A
Pharmacy Directory 64A
Pharmaceutical Mfg. Ass'n. 71A
Philips Roxanne, Inc. 33A
Physicians Casualty Ass'n. 23A

Robins, A. H. & Co. 13A, 59A
Roche Laboratories 21A
Roerig, J. B. & Co. 5A, 26A
Ryan-Evans Drug 63A

Sanborn Co. 30A
Saunders, W. C., Co. 7A
Schering Corporation 19A
Schieffelin & Co. 62A
Searle, G. D. & Co. 43A
Smith, Kline and French Labs 27A
Squibb, E. R. & Sons Co. 24A, 25A

Upjohn, The Co. 9A

Wallace Laboratories...14A, 15A, 28A, 29A, 42A
Wayland Drugs 65A
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references: (1) Lish, P. M.; Albert, J. R.; Peters, E. L., and Allen, L. E.: Arch. internat. pharmacodyn. *129*:77-107 (Dec.) 1960. (2)Howell, C. M., Jr.: North Carolina M. J. *21*:194-195 (May) 1960. (3) Clinical Research Division, Mead Johnson & Company. (4) Wahner, H. W., and Peters, G. A.: Proc. Staff Meet. Mayo Clin. *35*:161-169 (March 30) 1960. (5) Crepea, S. B.: J. Allergy *31*:283-285 (May-June) 1960. (6) Crawford, L. V., and Grogan, F. T.: J. Tennessee M. A. *53*:307-310 (July) 1960. (7) Spoto, A. P., Jr., and Sieker, H. O.: Ann. Allergy *18*:761-764 (July) 1960. (8) Arbesman, C. E., and Ehrenreich, R.: New York J. Med. *61*:219-229 (Jan. 15) 1961.

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September, 1961 Vol. 18, No. 9

Table of Contents

ARIZONA MEDICAL ASSOCIATION REPORTS

MEDICAL SCHOOL COMMITTEE – July 9, 1961 (Minutes) 9A
PROFESSIONAL LIAISON COMMITTEE – June 18, 1961 (Minutes) 10A

ORIGINAL ARTICLES

CHEMOTHERAPY OF HORMONE – PRODUCING TUMORS OF TROPHOBLASTIC AND ADRENAL ORIGIN – Roy Hertz, M.D. 229
MENTAL CONTAGION – THE UNOBSTRUSIVE MANIPULATION OF THE MIND.. 239
Joost A. M. Merloo, M.D.
PRIMARY ALDOSTERONISM – A NEW AND CURABLE HYPERTENSIVE SYNDROME 245
Matthew T. Moorehead, M.D., Robert O. Anderson, M.D., William A. Phillips, M.D.
VESICOVAGINAL FISTULAS AND THEIR SURGICAL TREATMENT AND RESULTS 249
Virgil S. Counseller, M.D.
Q-FEVER 253
Bureau of Preventable Disease, Maricopa County Health Department
EMOTIONAL STRUGGLES IN ADJUSTING TO OLD AGE – Resume of Some of the Important Points– Beverly T. Mead, M.D. 257

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

GUIDE POSTS TO ACCOMPLISHMENTS 30A
Juan E. Fonseca, M.D.

PRESIDENT'S PAGE

1961–70TH ANNUAL CONVENTION–ARIZONA MEDICAL ASSOCIATION 32A
Leslie B. Smith, M.D.

EDITORIALS

1961 LEGISLATION CONCERNING EYE CARE 41A
A. K. Hansen, M.D.
WHAT MEDICAL AUTHORITIES SAY ABOUT DROPS 42A
A. K. Hansen, M.D.
EDITOR'S NOTES 42A
LETTERS TO THE EDITOR 44A
William R. Shepard, M.D. – Edwin A. Busse, M.D. – Lowell Perkins

IN MEMORIUM

BERNARD E. GORTON, M.D. – 1926-1961 50A

TOPICS OF CURRENT MEDICAL INTEREST

IS THE EFFORT WORTH IT? 57A
Durward G. Hall, M.D.
PUBLIC HEALTH IN PIMA COUNTY 1960 62A
Hugh H. Smith, M.D.
RELATIONSHIP BETWEEN DOCTORS OF MEDICINE AND DOCTORS OF OSTEOPATHY 63A
PRESCRIPTION FOR PATIENT RELATIONS – PUBLIC RELATIONS 64A
Robert R. Rinehart

FUTURE MEDICAL MEETINGS AND POSTGRADUATE EDUCATION

GOOD SAMARITAN HOSPITAL – POSTGRADUATE SEMINARS 69A
SYMPOSIUM ON DISEASES OF THE CHEST 70A
REGIONAL CONFERENCE ON MEDICAL EDUCATION – Salt Lake City 72A
AMA CONFERENCE ON DISASTER MEDICAL CARE 72A
SOUTHWESTERN MEDICAL ASSOCIATION 72A

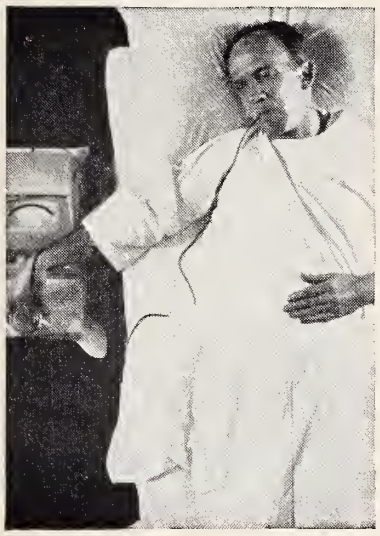
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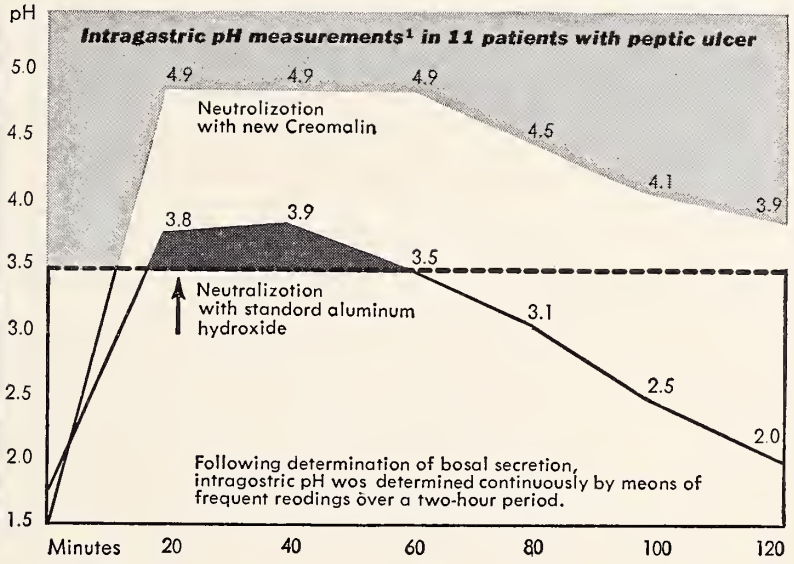
OFFICERS AND COMMITTEES 6A
SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTE AMERICA Y MEXICO ... 7A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 7A
WOMAN'S AUXILIARY 7A
INDEX TO ADVERTISERS 82A

Published monthly by the Arizona Medical Association, Inc. Business office at 4533 North Scottsdale Road, Suite 211, Scottsdale, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.

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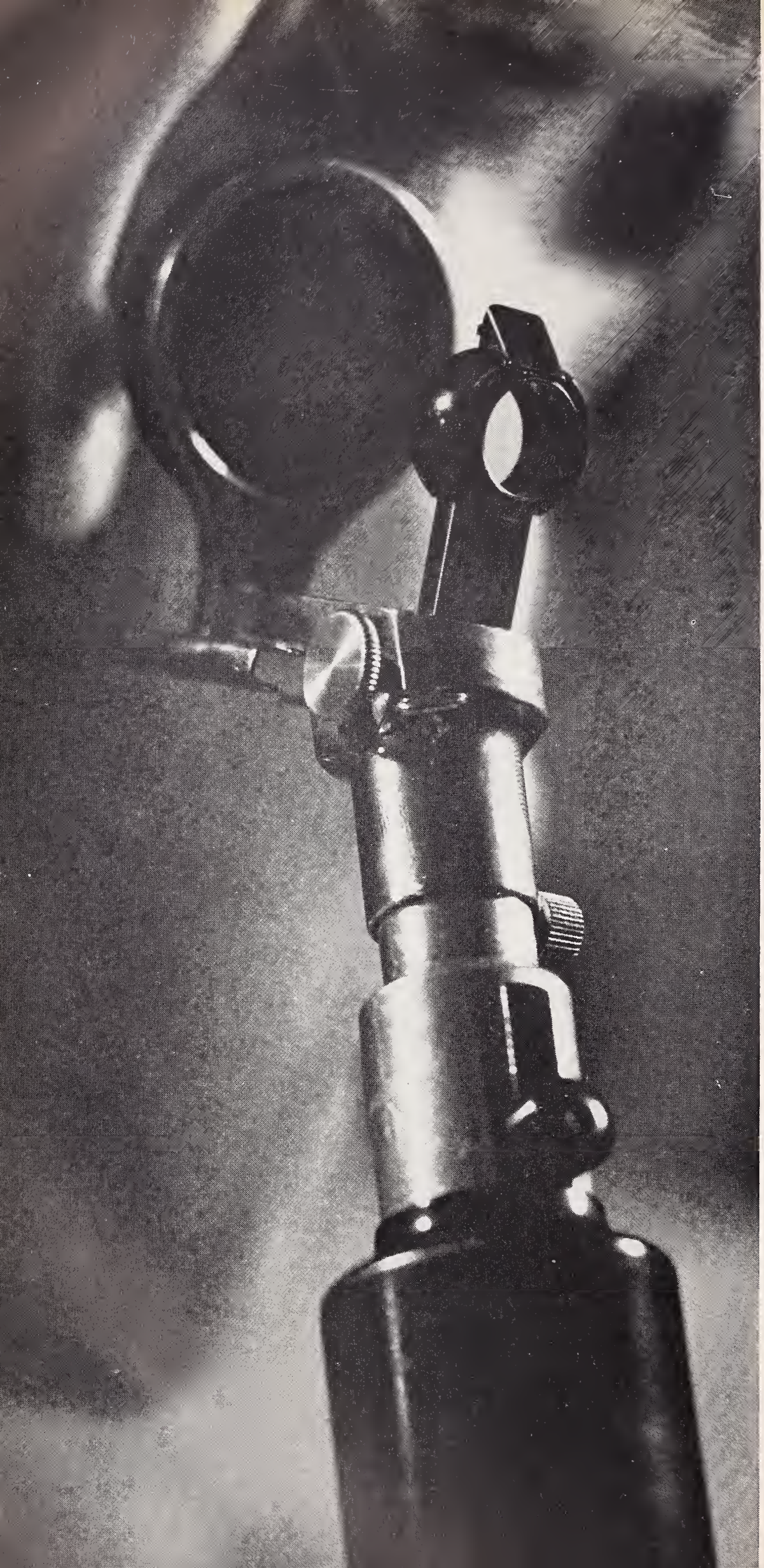
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Arizona Medical Association Reports

Arizona Medicine

September, 1961 Vol. 18, No. 9

Medical School Committee Minutes of Meeting July 9, 1961

A meeting of the Medical School Committee of The Arizona Medical Association, Inc. was held Sunday, July 9, 1961, W. Albert Brewer, M.D., Chairman, presiding.

ROLL CALL

PRESENT: Drs. Brewer, W. Albert, Chairman; Beaton, Lindsay E.; Manning, W. R.; Melick, Dermont W.; Robbins, Clarence L.; Singer, Paul L., Secretary; Smith, Leslie B., President; Yount, Jr., Clarence E., President-elect.

MEDICAL SCHOOL STUDY REPORT

The Chairman, Doctor Brewer, called the meeting to order stating that with the release of the report on the Arizona Medical School Study submitted recently to the Board of Regents of this State, it is timely to give consideration thereto.

The Secretary, Doctor Singer, reported that the Executive Committee of the Board of Directors in meeting held Saturday, July 8, 1961, was of the opinion that we should reaffirm the resolution adopted by the House of Delegates in annual meeting May 3, 1958, which reads as follows:

WHEREAS, at some time in the future the needs for formal medical education of qualified students in Arizona may not be met adequately as they are now by the Western Interstate Compact for Higher Education

WHEREAS, any plans for meeting a future need for expansion of opportunities for such medical education should embrace the consideration of the establishment of a medical school in Arizona

WHEREAS, the establishment and maintenance of a medical school is universally recognized as an extraordinarily expensive undertaking in the field of higher education, therefore,

BE IT RESOLVED, that The Arizona Medical Association, Inc., go on record as approving the establishment of a state supported medical school in Arizona at such time in the future as the unmet need for such a school is manifest and the State of Arizona is financially able to pay the costs of a school equipped and staffed for pre-clinical and clinical education on a nationally competitive level of excellence, and

BE IT FURTHER RESOLVED, that the Council of The Arizona Medical Association, Inc., instruct the medical school investigating committee to continue its studies of the needs for medical education in Arizona and to cooperate fully with all interested individuals and state agencies who are now or in the future concerned with this problem.

Doctor Beaton called attention to comments appearing in the 1960-61 annual report of the Medical School Committee, considered by the Reference Committee on Reports of the House of Delegates in annual meeting held May 1,

1958, which was accepted and approved as reported. The concluding portion of the report stated as follows:

The Medical School Committee of ARMA has no advance clues of the decisions to be made by the Volker commission. It does believe that all of the evidence it has seen to date indicates that Arizona should have a medical school and is ready for one now, that this state must play its part in the great national purpose of medical education for which many new medical schools will be required in the next decade. The immediate question as to whether a two-year school or a four-year school should be initially constructed is unanswred, to our best knowledge. Your Committee considers, however, that ultimately Arizona must have at least one four-year school. It thinks that it is not beyond the bounds of possibility at all that in the foreseeable future two four-year schools would constitute the soundest plan. The final judgment on the location of a medical school or schools within the State also remains unknown to us. This Association has taken the point of view that it would never attempt to influence this determination. It was partly to settle this issue that the Arizona Medical School Study was created, and the Medical School Committee is confident that it represents the Association in expressing the entire willingness of the physicians of the State to accept the final recommendations to be presented by Doctor Volker to the Board of Regents.

Considerable discussion ensued.

The following resolution was introduced by Doctor Beaton and on motion of Doctor Melick, seconded by Doctor Robbins, was unanimously carried:

WHEREAS, in 1958 the House of Delegates of The Arizona Medical Association, Inc., sponsored the conception of an unbiased expert study of the needs for medical education in our state, and

WHEREAS, The Arizona Medical Association advised the Board of Regents of the State Universities and College to undertake such a study and was instrumental in obtaining the interest of outside parties in support of the study, and

WHEREAS, the House of Delegates of The Arizona Medical Association in 1961, recognizing that physicians in private practice have no special competence in the field, officially expressed its willingness to consider the findings of a group of experts in medical education, now therebefore be it

RESOLVED, that while it recognizes the right of any individual or group to an expression of opinion on the location of a medical school in our state, the Board of Directors of The Arizona Medical Association, Inc., wishes it understood that no component society speaks for the Association, and further believes that it is not now proper for the Association to add its voice in special pleading as to the location of a medical school, and be it further

RESOLVED, that the attention of the Board of Regents be respectfully invited to the Arizona Medical School Study report as a basic document on all aspects of the problem of medical education in Arizona, and be it further

RESOLVED, that the Board of Directors does believe that it has the duty and right to inform the Board of Regents that it is the overwhelming consensus of the physicians of Arizona that an early start must be made on the establishment of a medical school.

Paul L. Singer, M.D.
Secretary

PROFESSIONAL LIAISON COMMITTEE

Allied Professions Clyde W. Kurtz, M.D.
Careers and
Arizona AMEF Albert G. Wagoner, M.D.
Governmental Medical
Staffs William G. Payne, M.D.
Nurses Delbert L. Secrist, M.D.
Public and School
Health Hugh H. Smith, M.D. and
Noel G. Smith, M.D.
Related Non-Official National
Organizations Harold J. Rowe, M.D.
(former Association of Physicians and Surgeons)
Woman's Auxiliary Ernest A. Born, M.D.

SUBCOMMITTEE REPORTS

Allied Professions

Dr. Frissell presented two items referred by the Board of Directors of the Association for study and report: (a) "Statement of Policy of the American Academy of Orthopaedic Surgeons on the Practice of Podiatry in Hospitals," enclosed with letter dated May 15, 1961, signed

by Clinton L. Compere, M.D., for the Executive Committee of AAOS; and (b) "Resolution on Allied Health Professions and Services in Hospitals," forwarded by letter of AAOS dated June 8, 1961, signed by Francis E. West, M.D., Chairman, Committee on Podiatry. It is intended to introduce this resolution in the House of Delegates of the American Medical Association during the forthcoming June annual meeting.

It was directed that this subcommittee give thought to the contents of these two communications and submit its comments and/or recommendations at the next meeting of the committee. The chairman will be informed of any action taken by AMA immediately following the annual meeting of its House of Delegates.

Careers and Arizona AMEF

Doctor Frissell reported that a budget of one thousand dollars has been provided for the operation of this committee with the understanding that it will be used in the furtherance of the program of medical careers developed and effected on the high school and college levels by Doctor Wagner, chairman of this subcommittee.

As regards Arizona AMEF, the program was reviewed, past experiences outlined and reported that the House of Delegates again authorized $10.00 out of the 1962 dues of the Association as a donation toward the American Medical Education Foundation fund.

Governmental Medical Staffs

Doctor Payne advised that he was not in position to report, at this meeting, the results of his survey of governmental facilities in this state, dealing with availability of medical services or need for the establishment of medical advisory groups in cooperation with the operation of certain of the installations. This project was commenced during the past fiscal year and he promised to submit his report at the next meeting.

Nurses

Doctor Frissell advised that he knew of no particular unfinished business within this category; however, the need for continuing liaison among the groups of registered nurses and licensed practical nurses, is recognized.

Public and School Health

Doctor Noel Smith summarized some of the activities dealing with school health which assignment he assumed during the past fiscal year. Of primary importance and for consideration at this time is the matter of "school health consultants." A survey was previously conducted and approximately 219 respondents indicated interest in school health programs.

Doctor Hugh Smith reported that it had been ascertained, the objective of Doctor William H. Harris of the Health Education Department of the University of Arizona was to solicit and obtain financial assistance from this Association to permit payment of expenses of W. W. Bauer, M.D., Director of the Department of Health Education of the American Medical Association, whose services were being sought in scheduling his participation in a proposed health education program being offered in the primary and secondary schools. Apparently, available funds for such purpose were not available on the National AMA level.

Doctor Frissell stated that considerable concern arose during the past fiscal year referable to the desirability of continuing a three-hour course on public health currently requisite, among other things, of teachers seeking certification. It has not been eliminated to date; however, it is anticipated there will be further discussion in this regard in the months ahead.

It was reported that Noel G. Smith, M.D., a member of this committee, had been appointed to serve as representative of the Arizona Medical Association on the State Advisory Committee for School Health. This activity was created in the Spring of 1959 and Doctor Noel Smith has just completed one year of effective service in this capacity.

Doctor Hugh Smith reported that Doctor Loyd S. Farner assumed the position and responsibilities associate therewith of Commissioner of the Arizona State Department of Public Health. He comes from the State of Washington, is approximately 52 years of age, and is reported to have had considerable experience in the field of public health, especially as pertains to tuberculosis control. There is every indication that the Commissioner will receive the full cooperation of the doctors of medicine of this state and especially the assistance of this subcommittee.

Related Non-Official National Organizations

Doctor Noel G. Smith turned over to Doctor Harold J. Rowe, designated chairman of this subcommittee, the file folder dealing with the activities of the former subcommittee on Association of Physicians and Surgeons. Contained

therein, and the only known item of unfinished business, is a letter signed by L. D. Sprague, M.D. (former subcommittee chairman), dated February 27, 1961, pertaining to scholarship funds provided by The National Foundation. Apparently, under this program, Arizona would have the opportunity for a health scholarship for one medical student, should he be able to qualify. It is expected Doctor Rowe will have comment and report thereon for submission at the next meeting of this Committee.

COMMUNICATIONS

Executive Committee Actions

Reported were the actions of the Executive Committee of the Board of Directors of this Association in meeting held April 23, 1961, dealing with: (a) physicians telephone calls to druggists to fill "Class A" narcotic prescriptions, wherein it is requested that this committee prepare a proper article for presentation to and publication in Arizona Medicine; (b) request for $1,000 to finance the activity of the Subcommittee on Careers for the purchase of a film, display materials, brochures, etc., and to provide personnel, as required, to administer this contemplated program, postage and supplies through the Central Office, which monies were appropriated; and (c) recommend establishment of policy appointing the Chairman of the Subcommittee on Public and School Health a member of the Legislative Committee of the Association, in the light of the many problems concerning it dealing with legislation, which was referred to the incoming President, and it was reported Doctor Frissell had been so designated.

Arizona Association of Nursing Homes

The Executive Committee of the Board of Directors in meeting held May 21, 1961, on request of the Arizona Association of Nursing Homes, Inc., designated Doctor Kenneth E. Johnson of Phoenix to serve it in an advisory capacity, as a representative of this Association. It was further recommended that a similar appointment be made designating a member doctor of medicine from the Tucson area, the second largest locality wherein a sizeable number of nursing homes are in operation. It is anticipated this matter will be considered by the Board of Directors for its approval in due course.

Paul L. Singer, M.D.
Secretary

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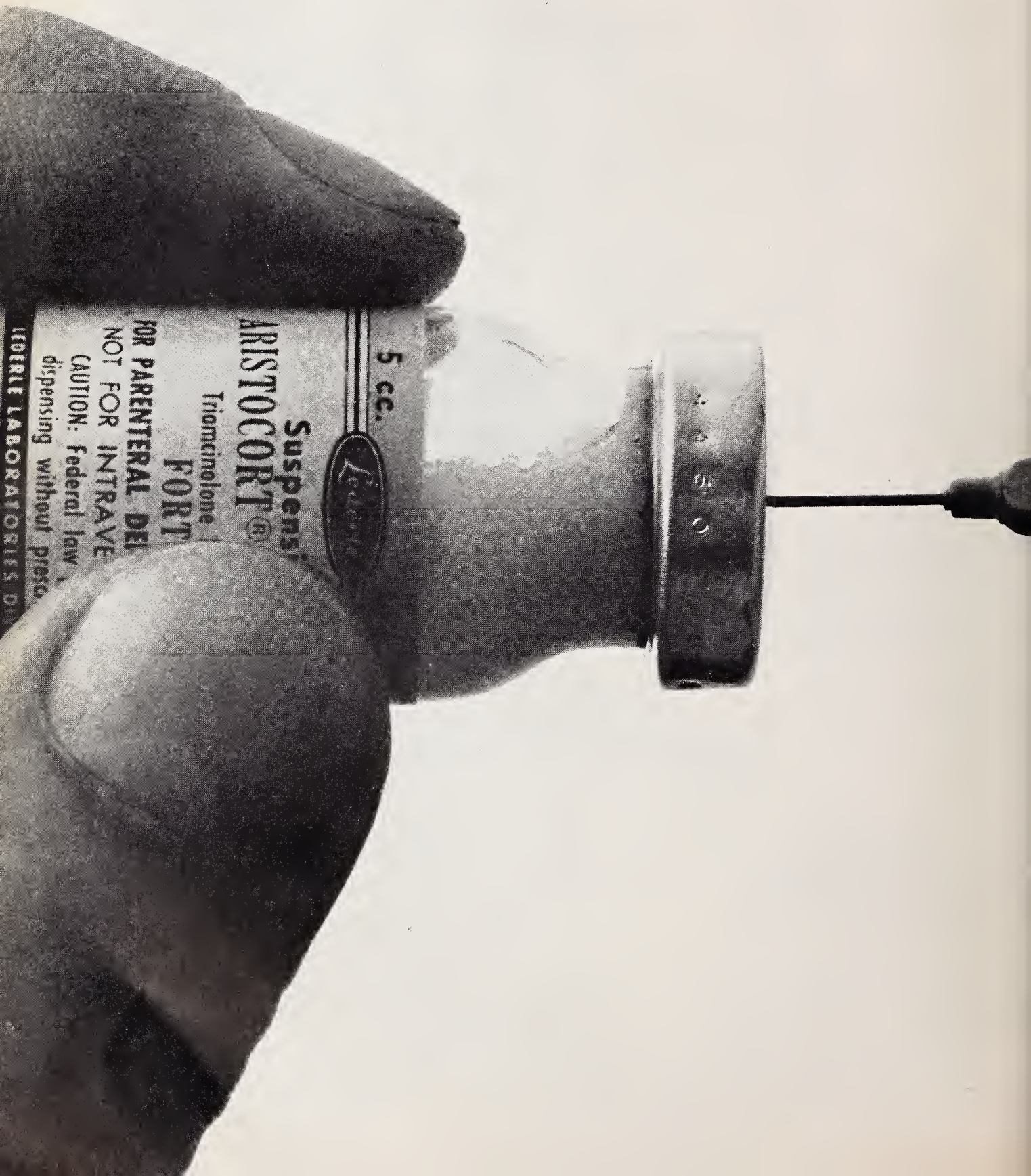
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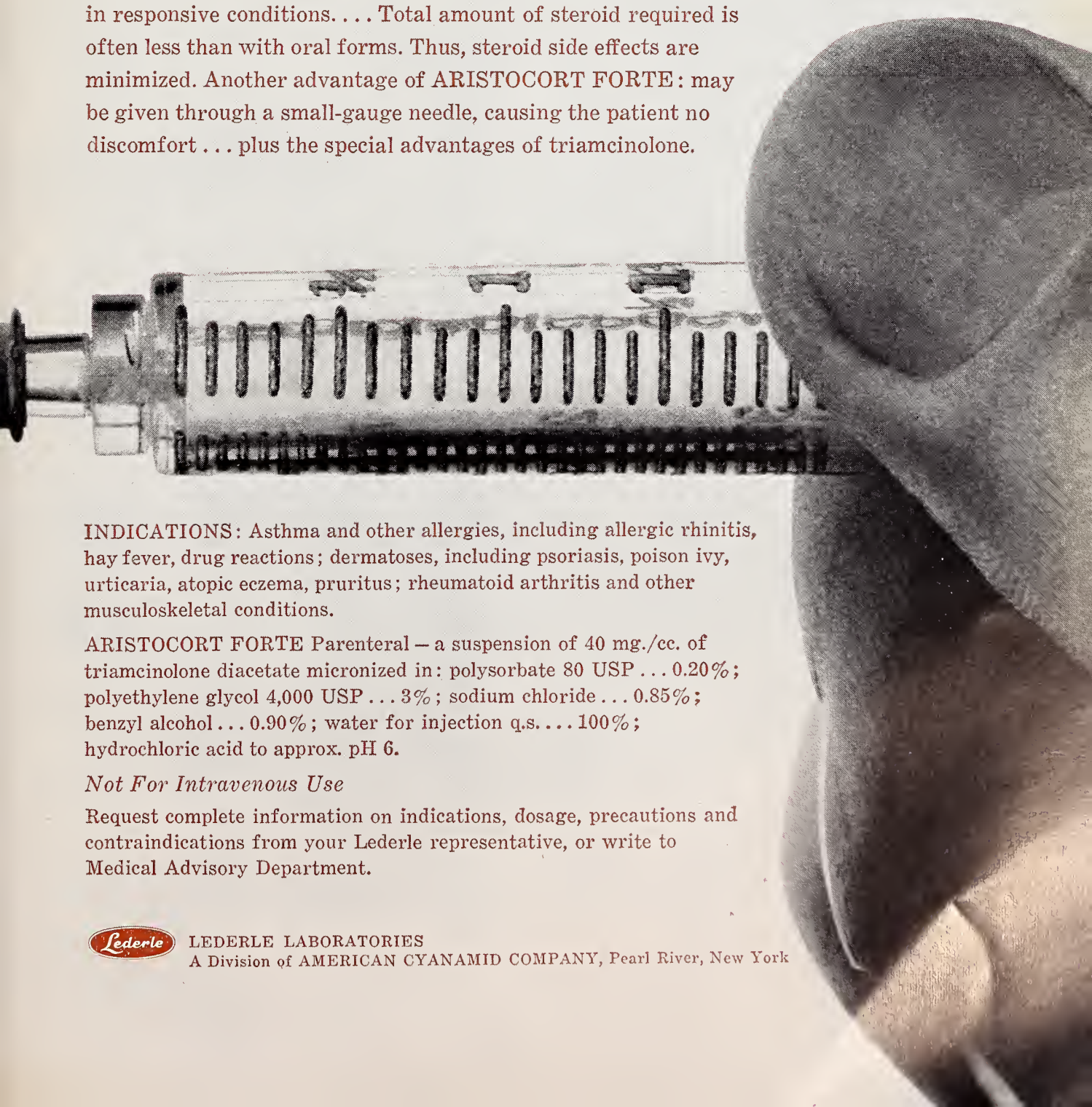
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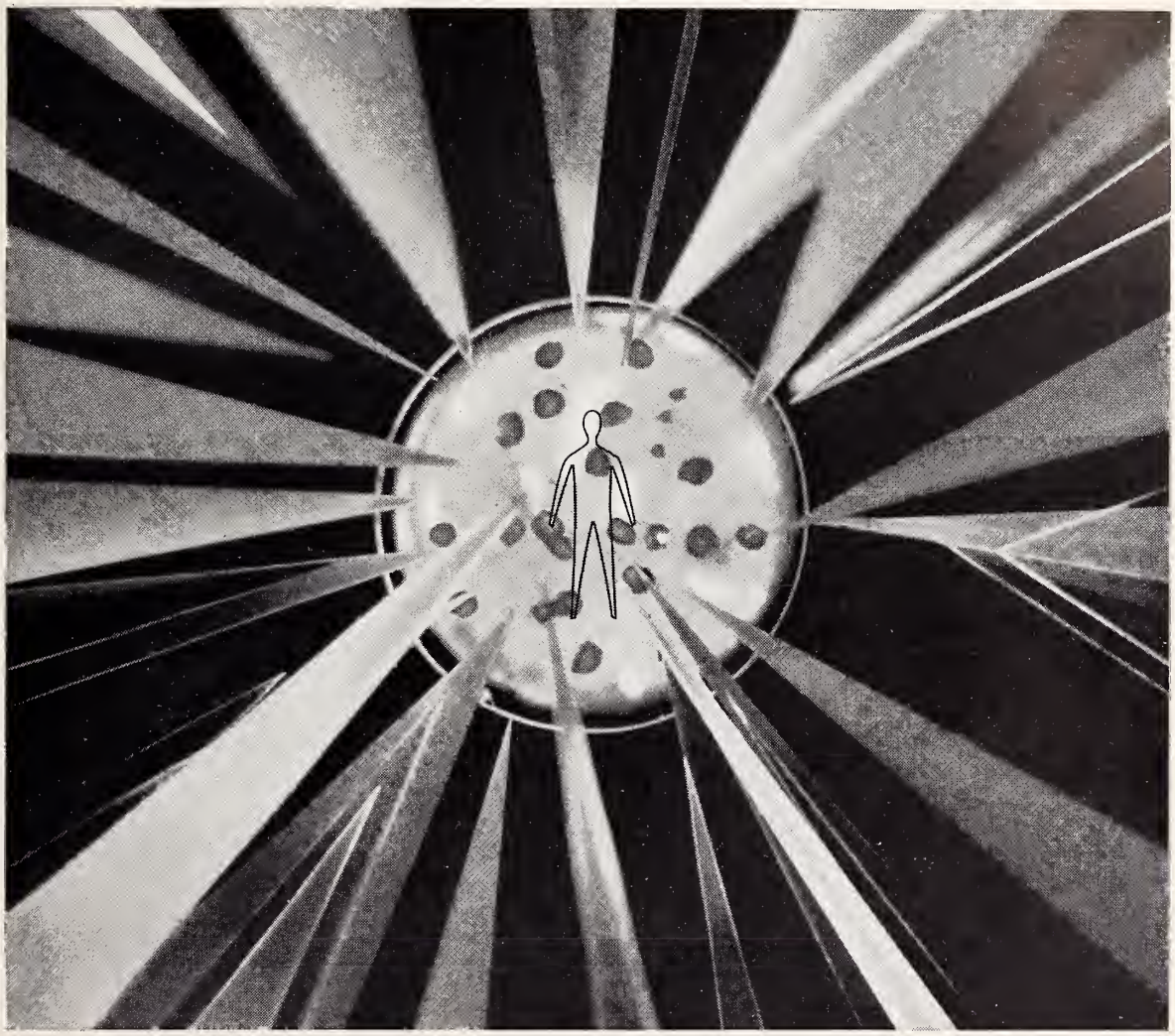
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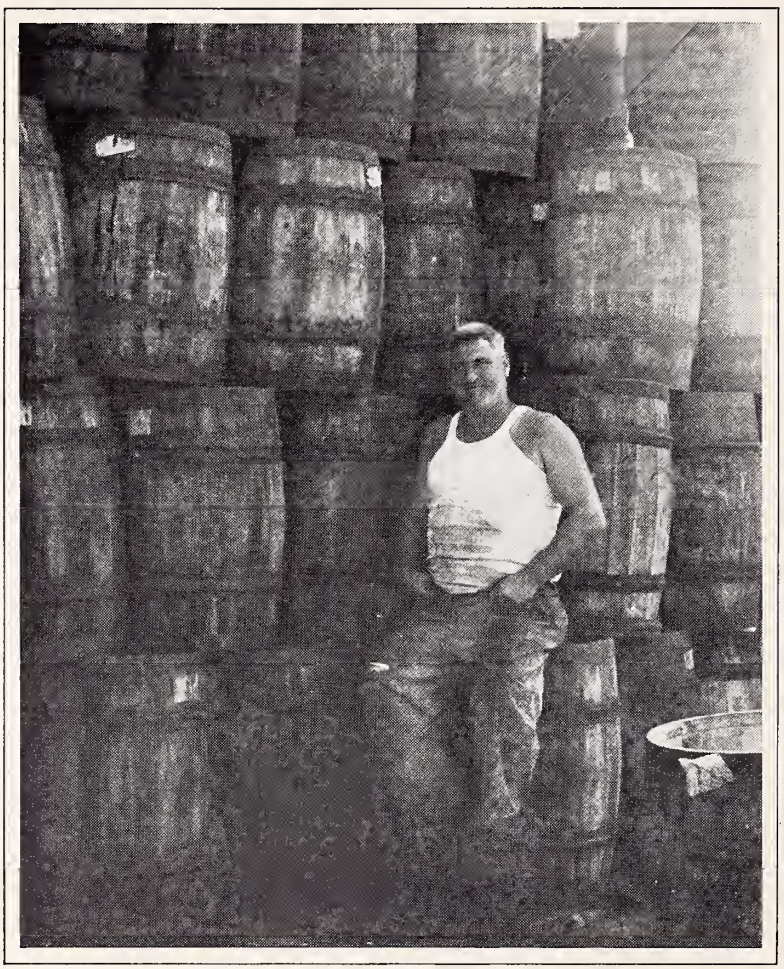
*Gant, J. Q., Jr.: *M. Ann. District of Columbia 30*:267, 1961.

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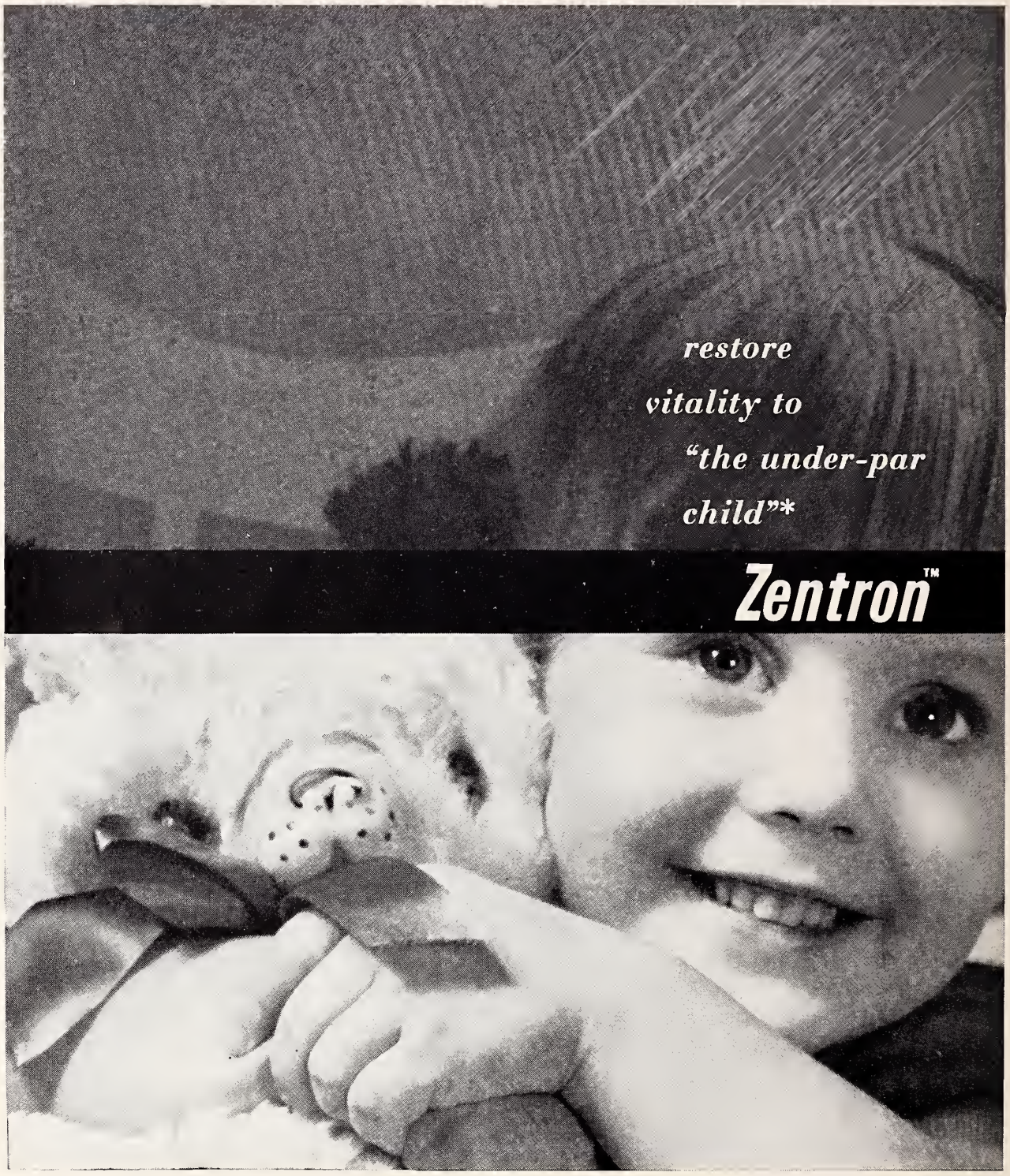
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Pyridoxine Hydrochloride (Vitamin B_6)	0.5	mg.
Vitamin B_{12} Crystalline	5	mcg.
Pantothenic Acid (as *d*-Panthenol)	1	mg.
Nicotinamide	5	mg.
Ascorbic Acid (Vitamin C)	35	mg.

Alcohol, 2 percent.

Usual dosage: Infants and children—1/2 to 1 teaspoonful (preferably at mealtime) one to three times daily.

Adults—1 to 2 teaspoonfuls (preferably at mealtime) three times daily.

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Chemotheraphy of Hormone-Producing Tumors of Trophoblastic and Adrenal Origin

Roy Hertz, M.D.

Observations in the chemotherapy of chorio-carcinoma and related trophoblastic tumors with Methotrexate and Vincaleukoblastine; and carcinoma of the adrenal cortex with ortho para prime DDD. Approximately 48% complete remissions in the trophoblastic tumors.

ONE OF the most urgent needs in the field of clinical cancer chemotherapy is the development of quantitative criteria of therapeutic response. Accordingly, we have concentrated our chemotherapeutic efforts upon certain hormone-producing tumors whose hormonal output can be quantitatively assessed by reliable laboratory methods.

Another point of departure for our studies has been in each instance the prior availability of biological data indicating that the chemical agents we have employed may have been expected to exert more or less selective destruction of tumor cells arising in the specific organs or tissues involved.

Accordingly, I wish to report to you in a somewhat cursory manner the main features of our observations in the chemotherapy of: (a) choriocarcinoma and related trophoblastic tumors with Methotrexate* and Vincaleukoblastine** and (b) carcinoma of the adrenal cortex with ortho para prime DDD†.

With respect to choriocarcinoma, we have previously reported the details of our therapeutic regimen with Methotrexate and Vincaleukoblastine and our criteria for evaluation of the results obtained(8,8a,8b). In the main, we have relied on the quantitative determination of the gona

Read before the Ninth Annual Cancer Seminar, Arizona Division, American Cancer Society, Tucson, January 12, 1961.
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*Methotrexate (4-amino-N^{10} methyl pteroylglutamic acid.
**Vincaleukoblastine, an indole-indoline alkaloid derived from the plant, Vinca rosea.
†o,p' DDD (2,2-bis(2-chlorophenyl-4-chlorophenyl)-1,1-dichloroethane).

dotropin excretion as a specific indicator of the state of the tumor and its response to therapy. In addition, all of the more widely employed criteria of clinical and radiological evaluation have been applied.

We have thus far treated 63 women with histologically proven metastatic trophoblastic disease. Since the histological classification of this family of tumor-processes is widely considered to have significant prognostic implications, we have exercised every effort to fully analyze our material from a histopathological point of view. Table I indicates the several pathological diagnoses applicable to the cases we have studied.

TABLE I
HISTOLOGICAL DIAGNOSIS IN 63 PATIENTS ('55-'60)

Choriocarcinoma	44
Chorioadenoma Destruens	10
Hydatid Mole	5
Trophoblastic Tissue with Decidua	1
Decidual Reaction	2
Hydatid Villi	1
	63

However, from a clinical point of view no case was admitted to the study without objectively demonstrable evidence of persistent metastatic trophoblastic disease. Thus, Table II lists some of the salient clinical features of the patients admitted to this study. It may be noted that, for the most part, these individuals presented advanced disease states.

TABLE II

Clinical Status on Admission	63 Cases
Gravely Ill	48
Pulmonary Metastases	51
Intracranial Metastases	9
Vaginal Metastases	12
Pelvic Mass	28
Ureteral Obstruction	9
Prior Hysterectomy	41

We have observed several patterns of response to our regimen of intensive, intermittent therapy with Methotrexate, supplemented in some cases with Vincaleukoblastine. The most favorable of these we have termed: "complete remission." By this we mean that the patient shows no evidence of any residual disease by physical, radiological, clinical and hormonal criteria. Figures 1 and 2 present hormonal as well as radiological data from 2 such cases. We have now seen such complete responses in 30 of our patients. Table 3 indicates the duration of these remissions. Twenty-five of these complete remissions have lasted for a year or more, the longest now being 5 years in duration.

TABLE III
DURATION AND FREQUENCY OF COMPLETE REMISSIONS (11-1-60)

	Number Treated	No Disease
3½ to 5 years	4	3 (75%)
2½ to 3½ years	25	10 (40%)
1½ to 2½ years	41	20 (49%)
3 months to 1½ years	63	30 (48%)

A less favorable pattern of response has been observed in 25 cases. This consists of an initial response as evidenced by a substantial drop in gonadotropin titer, regression of pelvic and pulmonary metastases, cessation of vaginal bleeding or hemoptysis and general improvement in the patient's clinical status. However, varying degrees of persistent disease are manifested by physical and x-ray findings and most notably by continued excretion of abnormal although substantially reduced amounts of gonadotropin. In many cases this latter feature is the only remaining evidence of peristent disease. After varying periods of time, ranging from 1 to 20 months, the hormone titer begins to rise and soon other manifestations of recrudescent disease are noted. Progressive deterioration of the patient's clinical status ensues. She subsequently expires with advancing disease despite continued attempts at therapy with Methotrexate and other oncolytic agents.

Only one patient in our entire series has thus far failed to show an initial response. The remaining 7 patients not already alluded to are at present in incomplete remission but it is at this point not possible to anticipate the nature of their final response.

These observations must be interpreted in the light of what is known about the natural history of metastatic trophoblastic disease in women. Occasional spontaneous remissions of metastatic

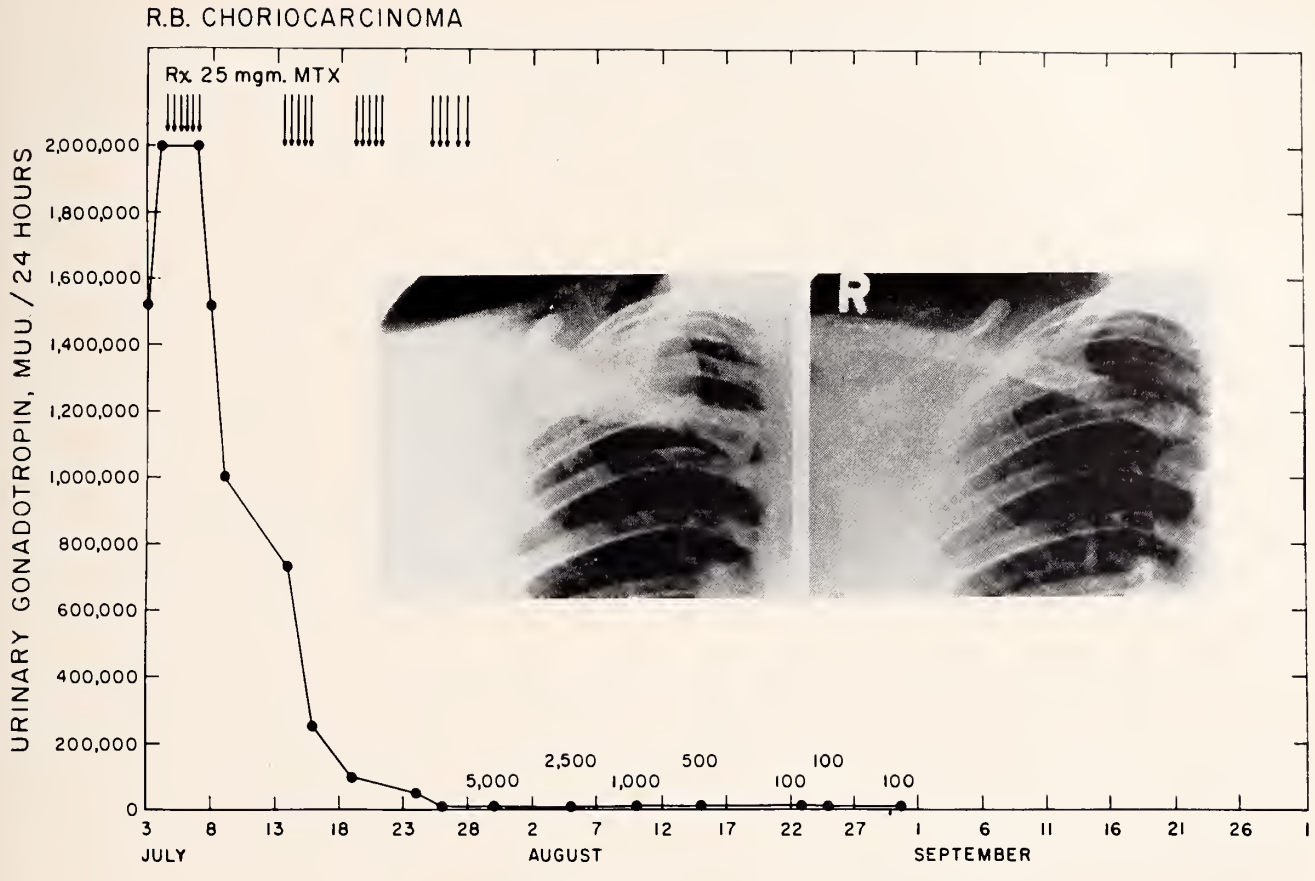


Fig. 1—Radiologic and hormonal response in patients with chorio carcinoma. Vertical arrows indicate courses of Methotrexate.

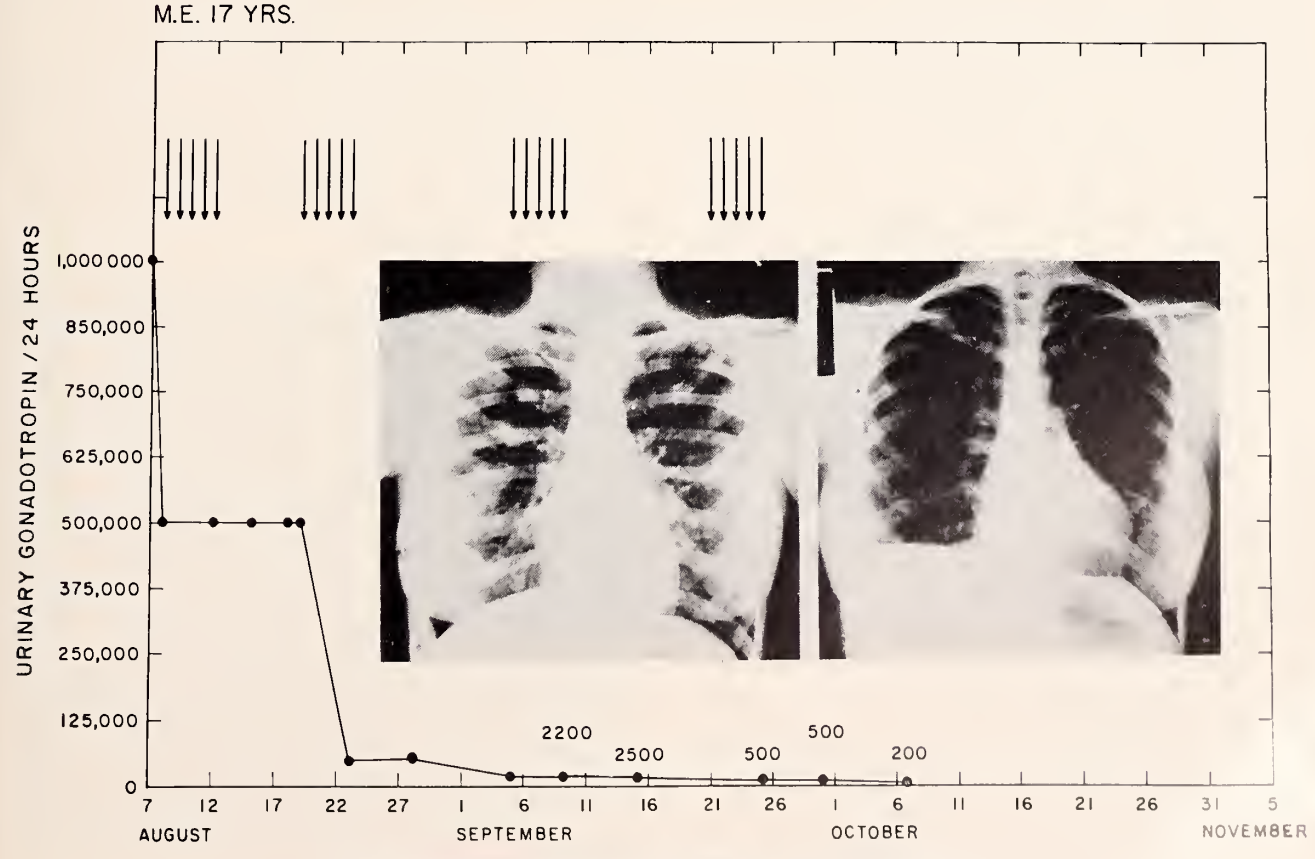
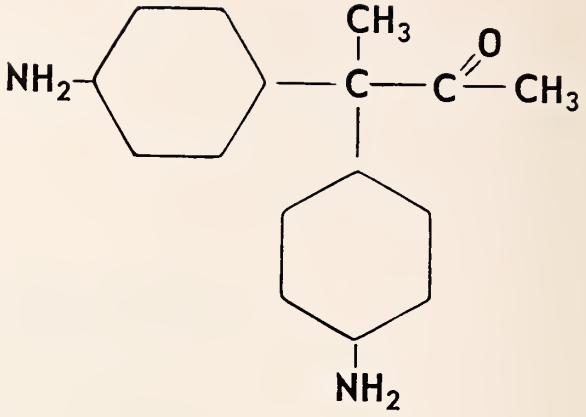


Fig. 2—Radiologic and hormonal response in patient with tropho blastic nodule. Vertical arrows indicate courses of Methotrexate.

disease have been documented(18,4). However, the striking uniformity and consistency of the initial responses we have obtained in this extended series of advanced cases clearly indicates a casual relationship between the clinical course observed and the therapy employed.

That complete remissions should have been obtained in these patients may be attributable to the special nature of the host-tumor relationship in the case of women with choriocarcinoma. In actuality, the tumor is derived from fetal tissue and hence represents an external invader of the maternal organisms. It may be this unusual aspect of the host-tumor relationship which renders this malignancy uniquely susceptible to eradication or suppression by chemotherapy.



AMPHENONE

[3,3-di (p-aminophenyl)-butanone-2]

Fig. 3—Formula for Amphenone.

In the remaining time available I should like to turn to our observations on cancers arising in the adrenal cortex in man. These relatively rare tumors produce a highly characteristic clinical picture reflecting their excessive production of adrenocortical hormones. This consists of virilization, hypertension, diabetes, psychotic manifestations, acne, plethora, and obesity which involves the face and trunk but not the extremities. Moreover, the excessive hormone production may be measured in both blood and urine by highly specific and precise chemical methods, thus providing a quantitative indicator of tumor response to therapy.

Meanwhile, during the past decade there have been developed nonhormonal agents capable of depressing adrenocortical function by 2 completely different mechanisms. It is significant that the initial impetus toward the development of both types of compounds came, not from any chromatographic revelations, but rather from careful analysis and interpretation of the specific effects of these respective substances upon the morphology of the adrenal cortex. Thus, the capacity of the Amphenone-type of compound (Fig. 3) to block the biosynthesis of adrenocortical steroids was first suggested by the remarkable accumulation of lipid noted in the enlarged, yellowish adrenal of the Amphenone-treated rat (Fig. 4) (7,12,13). Such an interpretation of these histological features were initially encouraged by the concomitant finding that Amphenone also induced a goitrous enlargement of the thyroid, an effect known to block thyroid hormone synthesis in the rat. However, it was soon demonstrated that the goitrogenic effect of Amphenone could be prevented by thyroxine without impairing the adrenal effect and conversely the adrenal effect could be prevented by cortisone without altering the goitrogenic effect. Hence, we were led to consider the lipid-laden and presumably blocked adrenal of the Amphenone-treated rat as an "adrenal goitre."

Stimulated by these purely morphological inferences we pursued further quantitative studies in collaboration with Drs. Nelson and Hume on the adrenal vein blood of the Amphenone-treated dog and my prior interpretation of the morpho-

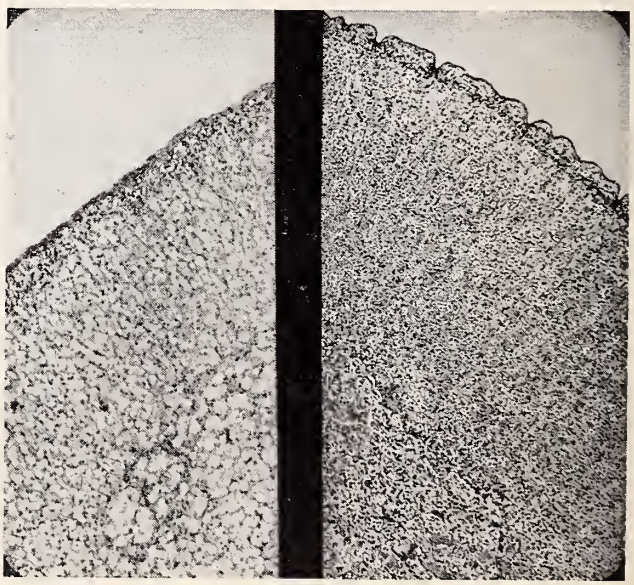


Fig. 4—Lipoid in rats adrenal with Amphenone as compared with normal control.

logical studies in the rat were substantiated and extended(13). There then followed our clinical studies demonstrating the capacity of Amphenone to suppress glucocorticoid biosynthesis in both the normal and neoplastic adrenal of man(10,11,19).

Similarly, the morphological studies of Nelson and Woodard(14) demonstrated the selective toxic destruction of the adrenal cortex in the dog resulting from chronic ingestion of DDD. The implications of these histological studies for adrenal function were in this instance quite obvious and direct and there naturally followed numerous attempts to utilize such drug-induced impairment of adrenal function in animals and man(15,16,20-22).

Subsequent pharmacological analysis of the multiple isomers later identified in crude technical DDD led to an appreciation of the relatively high potency of ortho para prime DDD as an adrenolytic agent(17,5,6).

Through the personal courtesy of Dr. J. H. U. Brown we obtained our initial supply of o,p' DDD. He also advised us that he and his clinical colleagues had found it necessary to advance the daily oral dose of this agent to 10 grams daily in order to significantly interfere with

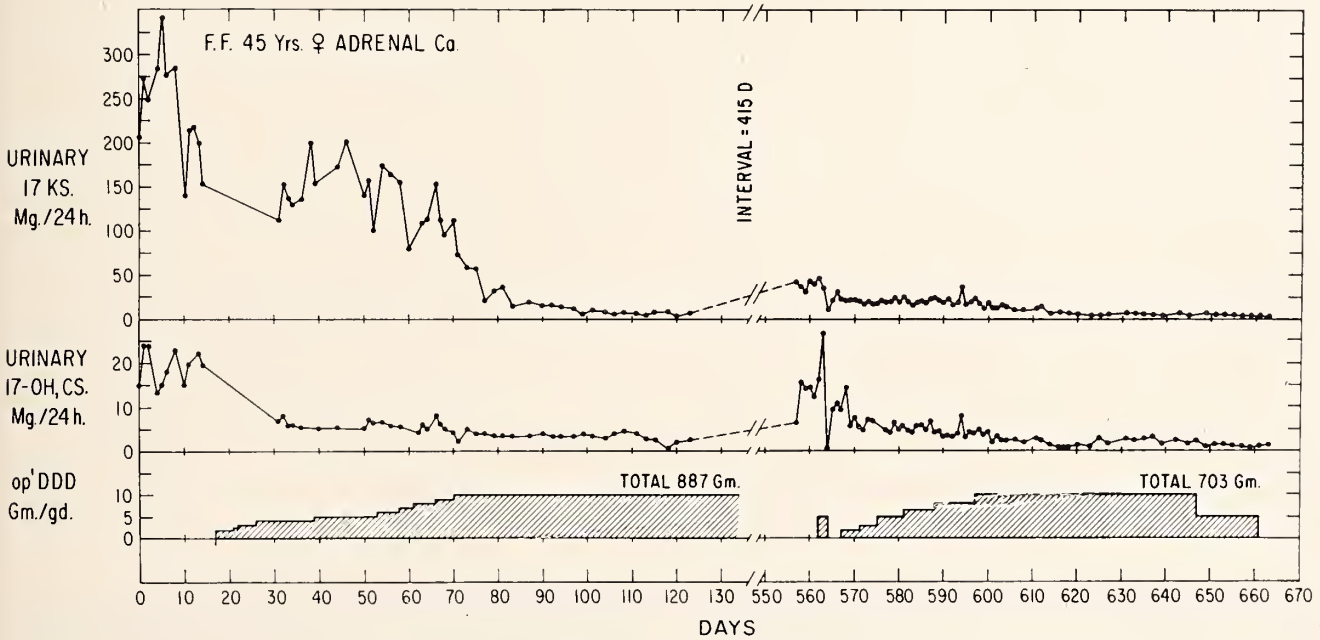


Fig. 5—Steroid excretion pattern in relation to o,p' DDD therapy.

ACTH response in eucorticoid subjects (Brown, personal communication). With this valuable material and guidance our group then undertook an extended study of the potential therapeutic effects of o,p' DDD in patients with metastatic adrenal cancer and we have previously reported some of the initial phases of these investigations(2,3).

Without burdening you with undue clinical and experimental details which are reported elsewhere(1), I should like to summarize for you the current status of these studies.

We have thus far studied 18 patients with advanced metastatic adrenal carcinoma who have been treated with up to 10 grams daily of orally administered o,p' DDD for periods ranging from 2 to 18 months, the daily dosage having been adjusted or interrupted according to tolerance. Frequent determinations of 17-hydroxycorticoid and 17-ketosteroid excretion as well as plasma corticoid levels were made before and during therapy and in many cases during intervals off therapy. In addition, radiological and clinical measurement of available metastatic lesions were periodically recorded. Comprehensive studies were also directed toward an evaluation of possible toxic effects upon hepatic, renal, neurological and hematopoietic function.

Table 4 indicates the metastatic sites and the salient clinical features in each case. It will be noted that 17 of the 18 cases had elevated steroid excretion levels, and the same number had easily measurable metastases.

TABLE IV
STATUS OF PATIENTS

Patient	Age yrs.	Sex	Average 17-ks	Initial 17-OH	Virilization	Cushing's syndrome	Site of metastases
Fox (A)	56	F	250	25	+	+	LA
Fox (B)	57	F	35	12	+	+	LA
Str	57	F	50	15	+	+	L
Vei (A)	33	F	60	30	+	+	A
Vei (B)	34	F	90	20	+	+	A
Sher	36	F	60	70	+	+	A
Nir	55	F	30	10	+		A
Sher	38	F	600	170	+	+	A
Mal	38	F	50	12	+	+	LA
Ioz	11	F	40	170	+	+	LA
Fis	58	F	162	30	+		A
Hil	36	F	60	23	+	+	A
Hop	1½	M	150	1	+		A
Sch	7	M	30	5	+		L
Ale	9	M	80	3	+		A
Hom	52	M	25	8			LA
Vic	59	M	14	6			A
Smi	56	M	110	20			A
Cla	51	F	22	8			L
Ric	50	F	110	45	+	+	LA

A brief summary of a few illustrative cases will convey the nature of the response that we have observed (Fig. 5). This patient had recrudescence of hyperadrenocorticism following prior surgery and radiation. She received 800 grams of o,p' DDD during a 3½ month period and exhibited subsidence of all of the features of hyperadrenocorticism associated with marked reduction in steroid excretion, resumption of menses, unequivocal regression of a large abdominal

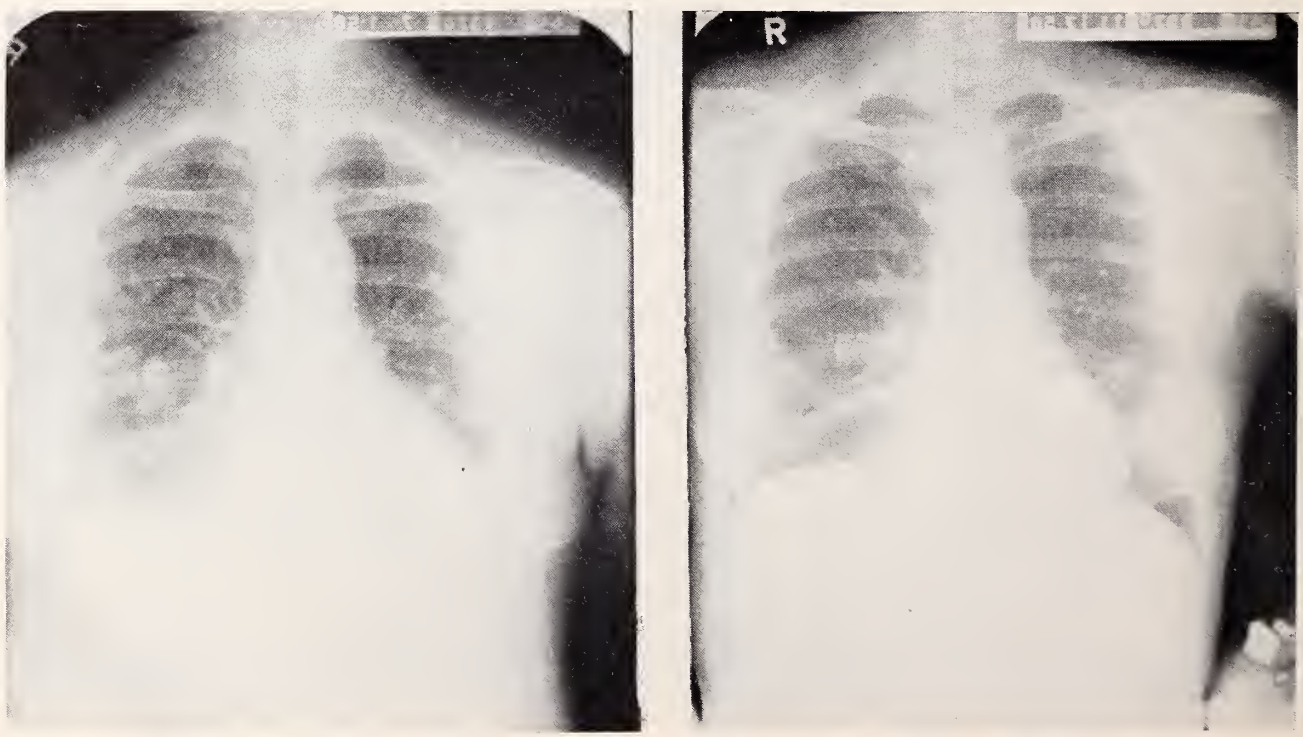


Fig. 6—Regression of pulmonary metastases in response to o,p' DDD therapy (left: before; right: after).

TABLE V
SUMMARY OF DRUG TOXICITY

Type of Reaction	No. of Patients
Gastro-intestinal	
Severe	3
Moderate	7
Mild	8
Skin Rash	4
Central Depression	
Severe	3
Mild	5
Muscular Tremors	2

mass and of radiologically demonstrable pulmonary metastases (Fig. 6) as well as general clinical rehabilitation. She sustained this remission for 5 months and was off therapy during the last 3 months of this initial remission. Her steroid excretion then gradually rose and she again received 180 grams of o,p' DDD with further therapy during the ensuing 6 months and then returned with marked hyperadrenocorticism and recrudescence of her pulmonary lesions. She again responded to 500 grams of o,p' DDD with reduction in steroid excretion and further regression of pulmonary metastases. However, hypertension and renal impairment persisted and she developed septicemia, pulmonary edema and died. Autopsy revealed massive necrosis of large abdominal metastases.

We have represented in Fig. 7 the steroid excretion data in the case of a 7-year-old boy who showed a prompt response to therapy in terms of reduced steroid excretion and regression of a previously, rapidly advancing pulmonary metastasis (Fig. 8). He sustained this regression

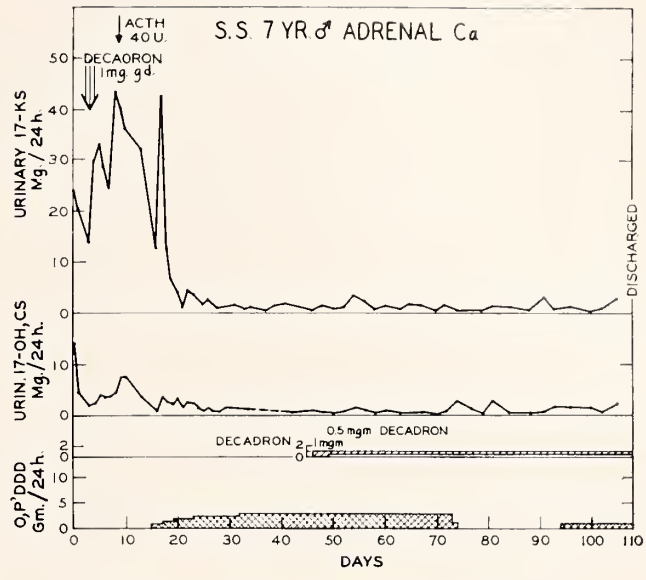


Fig. 7—Steroid excretion pattern in 7-year-old boy.

on intermittent therapy for 7 months and is currently under a second course of treatment at increased dosage in another attempt to gain further suppression. Nevertheless, he has remained totally asymptomatic throughout this time.

The following figures (Figs. 9 and 10) offer additional examples of steroid suppression associated with tumor response.

Functional and histological studies of the remaining adrenal of o,p' DDD-treated patients reflected the profound damaging effect of the drug on the normal adrenal cortex (Fig. 11). It is noteworthy that all zones are similarly affected although it appears that the glomerulosa is less sensitive than the fasciculata and reticularis.

Our therapeutic efforts have been seriously

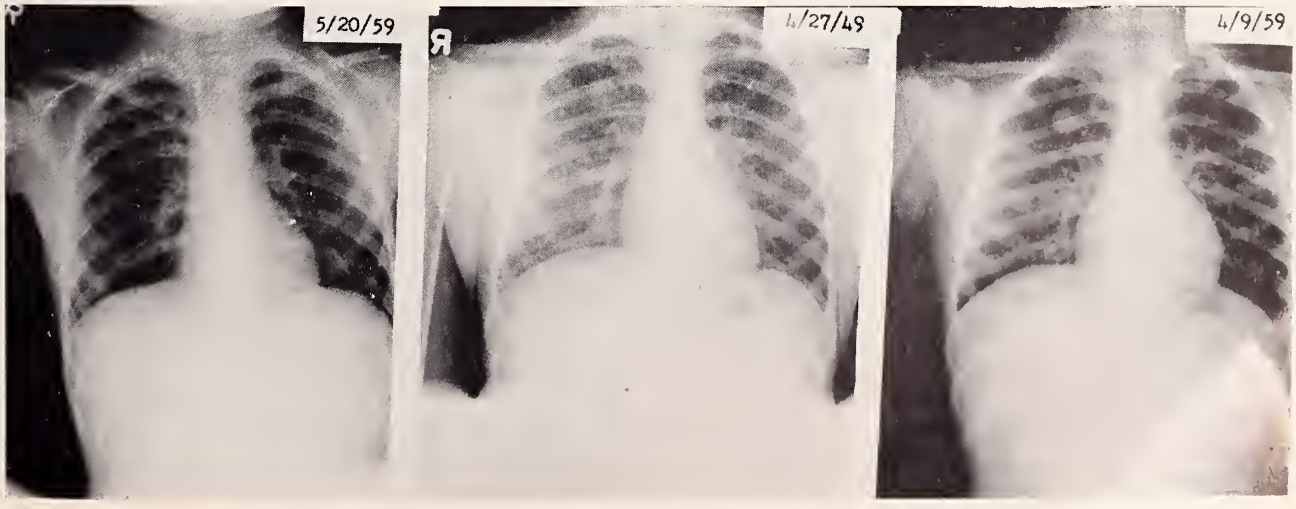


Fig. 8—Regression of pulmonary metastasis in response to o.p' DDD therapy (right and middle: before; left: after Rx).

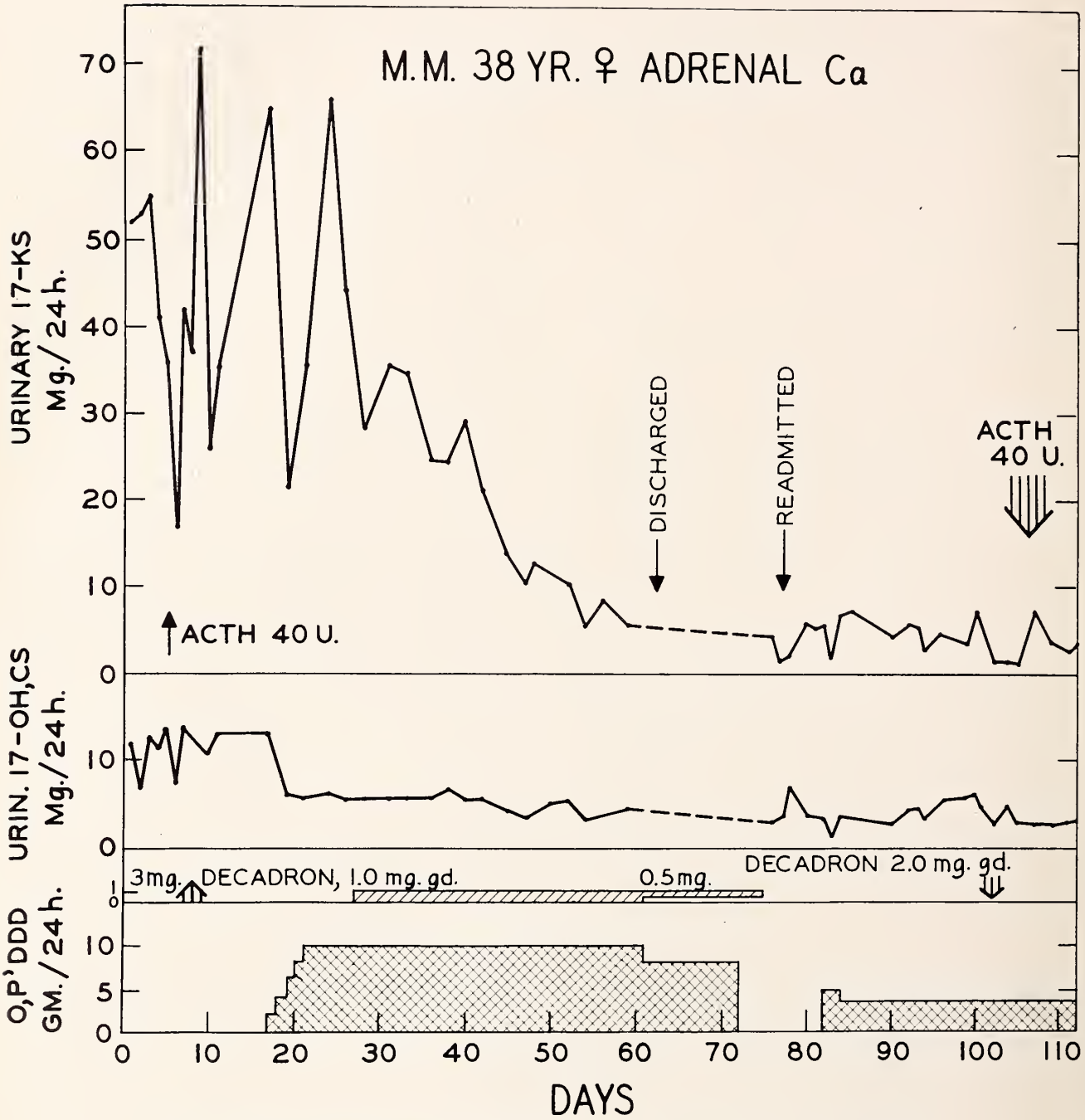


Fig. 9—Steroid excretion pattern in 38-year-old woman in relation to o,p' DDD therapy.

hampered by the multiple though not always intolerable toxic affects of o,p' DDD. Table V summarizes these untoward responses to the drug. It is noteworthy that no evidence of hepatic, renal or marrow toxicity was observed. The gastro-intestinal toxicity frequently proved surmountable through the use of numerous anti-nausea agents. However, the effects upon the central nervous system, mainly lethargy and somnolence, frequently made it necessary to withdraw o,p' DDD. These undesirable effects have placed very substantial limitations on the general clinical usefulness of this agent.

Nevertheless, the type of remission seen in this group of patients has not been previously reported in untreated patients and was not observed in a group of Amphenone-treated patients whom we previously studied with equal care(9). We may therefore conclude that notwithstanding the practical limitations of the therapeutic effects obtained, the course of adrenal cancer has been substantially modified in both its clinical and biochemical aspects by a specific chemotherapeutic agent. It may be hoped that more acceptable agents may be subsequently developed. Moreover, further elucidation of the mechanism

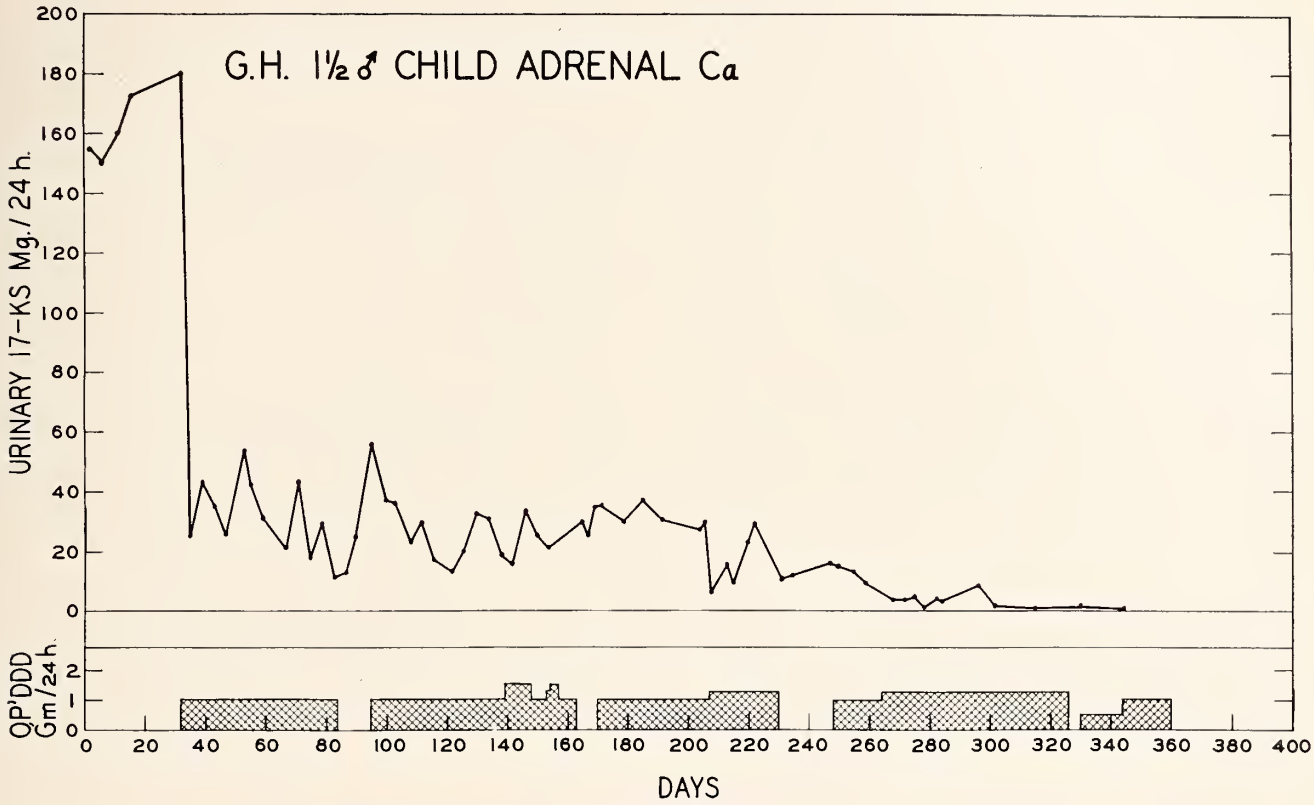


Fig. 10—Steroid excretion pattern in relation to therapy in 18-month-old boy.

whereby o,p' DDD produces its selective effect upon the adrenal cortex may provide a basis for the derivation of additional oncolytic agents with specific affinity for tumors of other sites.

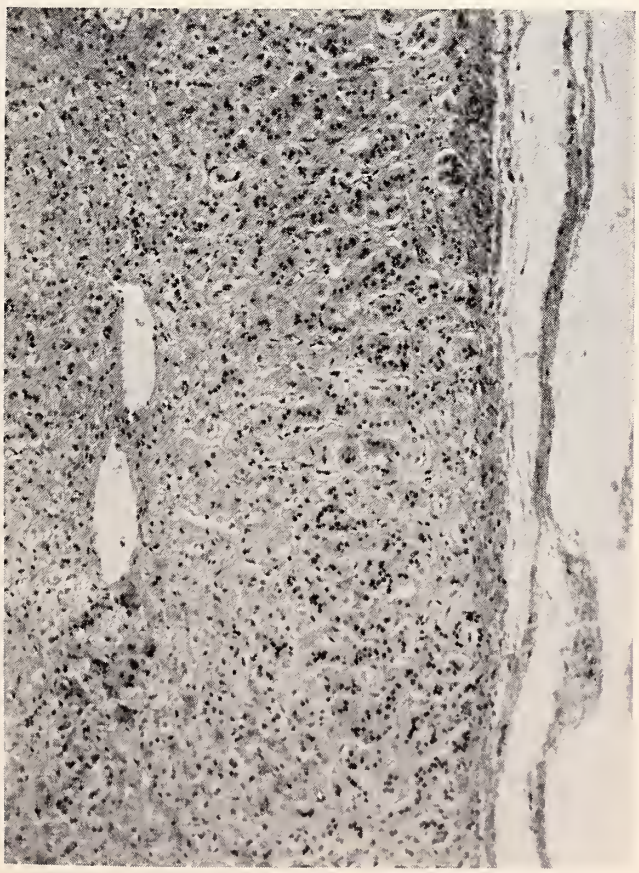


Fig. 11—Damaged adrenal in o,p' DDD-treated patient.

Moreover, the purely morphological nature of the initial studies which ultimately provided us with both the Amphenone-type and the o,p' DDD-type of adrenocortical inhibitor should provide some stimulation for further observations of this nature.

In closing, may I express the hope that the foregoing account of our studies on hormone-producing tumors may serve to emphasize the unique value of these tumors as quantitative indicators of chemotherapeutic response.

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AMERICA, TOO YOUNG TO DIE

RECOMMENDED:

Major Alexander P. de Seversky's *America, Too Young To Die* — A listing in detail of the fallacies, blunders and bureaucratic lethargy that he believes are responsible for carrying America to the verge of bankruptcy intellectually, financially, and militarily — through misuse of superior human and material resources the U. S. has defaulted to the Soviets.

He insists the American people must take the reins of government in order to survive as free men. We have been hoodwinked, lied to and made fools of by so many of our political and military leaders for so long that we are a second-rate nation whose defense is still dominated by minds mired in the trenches of the Argonne Forests. And from today aerospace will be the supreme expression of military power — a fact he argues pursuasively and with authority.

MENTAL CONTAGION
The Unobstrusive Manipulation of the Mind

Joost A. M. Meerloo, M.D.

Dr. Meerloo writes authoritatively about a timely subject. Strength of character and high ideals are useless defenses against propaganda which is not recognized as propaganda. In the flow of information and influence perhaps the wrong filter is emphasized; the careful judgment of incoming impressions. More important is the critical pause before expression, i.e., before reacting or imitating. One stands when the national anthem is played, not because everyone else is rising but because one elects consciously and (therefore) willingly to show respect.

THE MIND of man is never isolated. His feeling, thinking and creating are bound to mankind by a million ties. The very word he speaks was taught to him, the theory he expounds is to a certain degree a harmless form of plagiarism. The image he creates is composed of numerous images received and perceived somewhere in his past.

The inadvertent pressure on man's senses increases day by day, not only because of the expansion of his actual environmental world, but also through the elaborate mechanized forms of communication, through press, radio, movies, television. Nobody can pretend any more to be the principal originator of *his* own thinking. Inadvertently, he is enforced to absorb a thousandfold suggestions and explanations.

Actually, there exists an elaborate system of selection among all these suggestions from outside. There is affirmation, denial, or critical repudiation. We cannot merely say that people are the sum total of all the personal contacts they make, or a cross-section of the imaginary heap of persuasions which they gather in their "inner society." We could, in this instance, call man the sum total of *internalized* influences from outside.

As a rule, psychoanalysis and psychotherapy make people more aware of the various persons they inwardly talk to: parents, relatives, friends, foes, teachers, idealized leaders. Most of these internal communications take place unobstrusively and unconsciously.

What individual man is able to do with the web of communication around him and within himself determines how vulnerable or how strong, he will become. The communicative system within him — as represented by his nervous and hormonal systems — may act in a disturbed way, or the web of communication from outside may be inharmonious.

In a study of mental infection we must be aware of the fact that conscious and intentional communication is often not as effective as the unconscious, so-called "preverbal" communication. Those people who are able to give direction and emotional content to other people's silent moments have more influence than those who use sophisticated words.

People are in constant psychic exchange with one another on various levels of awareness. In every personal contact it is not only the language which transmits feelings and thoughts, but the greater part of our communication is effected through minute clues of which people usu-

Presented at Camelback Hospital, Phoenix, Arizona, December 20, 1960.

ally are not aware. Public opinion engineers try to utilize those clues and may even advertise using them subliminally so as to bypass man's barriers of skepticism and criticism. Gestures, tones, sounds, silences, and irritations in response to special words often have a greater impact than words, grammar and syntax. In the past few years, psychiatry has paid more attention to the subject of non-verbal communication because it is of such vital importance for the understanding of schizophrenia. Schizophrenic patients have a marked sensitivity to what is going on mentally in other individuals. They respond to minute clues signaled to them by others (the therapist included) while ignoring overt verbal communication.

In every one an innate biological signal code exists, also called "archaic sign code," which has a tremendous communicative impact. Archaic communication may be defined as a rudimentary remnant of animal signals, originally used as a warning to fellow creatures to flee or hide. In human beings these signals are the manifold signs used for mood conveyance or for transmitting a state of general alarm. We understand many of these signs to be remnants of early infantile, or even intrauterine, behavior(13). A continual appeal for help may be broadcast through various bodily symptoms. A baby may express an appeal for more coddling through numerous colds. Itching, may be a signal that some inner emotional discharge is about to begin. It may indicate a need for increased affection or constitute a camouflage for sadistic fantasies.

In observing these primary biologic signs we discover the following rules: *The more a human expression approaches an archaic form of communication, the more contagious is the meaning it conveys.*

Some of these archaic signs are appropriate adaptive responses of the fetus, well observed during intrauterine life, such as active rotation, flexion, or a stretching of the body. From the eighth intrauterine week on the embryonic organism lives in a total rhythmic behavior, and reactive and protective movements are noted(12). Most probably the fetus lives in a rhythmic sound-world filled with auditive impressions from the maternal heart, with a mean frequency of 70, and a different rhythm from its own fetal heart with a mean frequency of 140 superimposed upon it. The fetus is observed also to react to sounds from the outside world(19). This observation, combined with the knowledge that the amniotic fluid is a better sound conductor than air, makes the acceptance of a prenatal rhythmic sound-world more than probable.

Rhythmic rocking, dancing and floating in the amniotic fluid belong to the well-observed normal intrauterine movements(19). The child in the uterus yawns, (intrauterine drinking), scratches, and stretches as a response to stimulation from outside. Every mother knows about this lively conduct of her child within.

Some of the other appropriate adaptive responses, which seem later to be so contagious, can be observed immediately after birth. The child shows rhythmic behavior while sucking at the breast immediately after birth. When the first feeding is not delayed beyond a six hour period, the child also shows the pumping reflex with its hands while manipulating mother's breasts, a pawing reflex movement so well known in cats. Usually mother and baby show a common rhythm during the feeding which is repressed after too long a delay of the first nipple searching behavior. The baby also shows a third form of rhythmic movement of the head while going from one breast to the other.

The infant pulls back its lips when satisfied (smile), or turns the head away when unwilling to drink (the gesture of "no"). The newborn coughs and scratches; it shivers from cold. When frustrated in its appropriate food-searching movements, the child will displace the innate appropriate movements to other objects. Head-banging, *jactatio nocturna*, early masturbation, rhythmic rocking may all be interpreted as manifestations of displaced, appropriate innate reflexes in the service of primary oral gratification.

One of the best known examples of normal archaic communication is the rocking and dancing movement. It is the innate wisdom of every mother that leads her to putting her child to sleep by rhythmic rocking movements. In doing so she is but repeating mnemic impressions of

the child when it was floating around in the amniotic fluid in carefree equanimity.

DANCE AND RHYTHM AS PRIMITIVE TOOLS OF COMMUNICATION

The dance is an imitative movement used by primitive man, by means of which he imitates animals as a magic defense against them. The imitation makes people feel magically stronger than the animal and thus they wrest control from the animals by way of magic. Some Indian tribes still believe that the dance is taught to them by animals. It would lead us too far afield to describe how much dance and rhythm are used in the animal kingdom to transmit messages to other animals, as we see, for example in bees and in the mating dances of higher animals. For our purpose we may state, however, that in man the dance inadvertently brings to life vague reminiscences of archaic rhythmic movements and of the nirvanic existence before birth. In early religious experience dance and magic gesture helped indeed to establish communal participation, that is to say, communion of the various individual members.

It is important to be aware of the contagiousness and the empathy-provoking action of archaic signs and expressions. In observing these early biologic responses everybody inadvertently takes part in the process. The listener may feel an itching sensation when, for instance, the subjects of scratching or skin-touching are brought up in the course of a conversation. Many people cannot see skin diseases without becoming itchy themselves. So again: *the closer a human expression approaches an archaic form of communication, the more unobtrusive is the communicative meaning it conveys.* Mental contagion is the result of a common backward pull, a mutual pushing of people into reminiscence, regression, and infantilism.

Laughing, crying, yawning, stretching, shivering, shuddering, and scratching may directly and immediately evoke similar responses in others. The same contagious action is true for running, speeding, clapping hands, rhythmic cheering — all inadvertent reminiscences of the infantile drive for immediate and direct gratification, or reminiscences of the so contagious flight reactions to fear.

Something occurs in people during observation of such archaic sign behavior. An inner resonance unwittingly pushes them back into their own childhood memories. The shared regressive fantasy provokes a deep inner resonance and may lead to a direct identification and empathy with others.

The factor of common regression and unconscious identification through archaic signs and gestures, or through the hypnotic drive of words has been exploited in political strategy, where full use is made of its contagious action. Uniforms, flags, rhythmic marching, communal singing, ritual gestures (Nazi salute) turn people — and especially youth — more easily into mechanically acting, conforming automatons. Rhythmic sloganizing brought entire populations into hypnotic ecstasy: "Duce, Duce, Duce!" — "Sieg Heil, Sieg Heil!"

Just as all of us are contagiously affected by yawning — which in itself may be explained as a remnant of fetal drinking and a sign of yearning for food and sleep — so do we find other archaic signs easily leading to mental contagion and shared primitive identification. The same compulsive imitation in others can be brought about by staring, gazing, mimicking and grimacing. Pantomime and imitation of a public figure or an actor suggest that other people unconsciously do the same.

The universal communion of archaic movements is a principal factor in the concept of mental contagion. Because of this communion people are compelled to imitate what others act out for them.

Gestural contagion can be observed in religious ecstatic revivals. Some sects produce a ritual of archaic movements leading to easier communion and participation in their special beliefs — as for instance the sects of the Jumpers and Shakers did in Pennsylvania in the beginning of the nineteenth century. The rhythm of swaying movements during prayer also induces this communion of feelings. It is the contagion of movement, or shuddering and shivering and the common expectation of salvation that leads into the common ecstatic experience of the *mysterium tremendum.*

In people who have survived a catastrophe, such as bombing or confinement in a concentration camp, I have observed comparable signs of automatic, imitative behavior. The more completely they had lost their own feeling of identity the more readily they imitated the gestural signs of others. Back in normal circumstances they lost this over-all identifying behavior very soon.

THE UNOBTRUSIVE SUBMISSION TO SOCIAL PATTERNS

The intricate, subtle observations during group therapy have taught us how the participants, without knowing they are doing it, unobstrusively take over from one another special habits and patterns of behavior. They take over as well as repudiate. But even while criticizing one another something sifts and leaks through the mental barrier of their criticism and inner defenses, consequently they are forced to follow the slow coercion of the stronger personality. In the group the critical barrier against suggestions and fascination is rather weak.

Psychologically we may interpret much of man's identifying behavior as a search for anonymity, a protective, magic need to be inconspicuous. We can compare this with camouflage in the animal kingdom. "When I am anonymous and inconspicuous, nothing can happen to me." The same is true, for instance, for a well-known reaction to danger called "freezing" or being "petrified with fright." We find this sham-death attitude (also called catalepsy) as a form of mimicry and camouflage in moments of danger throughout the entire animal kingdom(16). Nothing is an contagious as this fear catalepsy. During the Second World War I repeatedly saw how people in so-called shock (catalepsy-death-attitude) surrendered themselves passively to the very danger they dreaded(17). By their death-like behavior they aroused in the bystanders even greater fear than the actual bombing or destruction. The same contagious action is repeatedly observed from the extremely infectious and physiologically comparable fainting spell.

The wave of panic in a crowd spreads swiftly, as if a direct telepathic communication existed between one panicky person and the other. In a study on panics I could relate the experience in a London shelter during World War II, where a silent panic caused cataleptic death in several individuals(17). Hypnotic catalepsy, the trance produced by quacks on the stage, also incites a most contagious identification.

Yet, by thinking only in terms of pathology we are wrong. Inadvertently people imitate each other. Child behaves like his parent, student like his teacher, patient like his therapist. An unobtrusive mental contagion is going on the world over, because man is a communal animal, eagerly trying to be "at home" in a group and to identify with it.

MENTAL POLLUTION

Apathy, rigidity, collective feeling of paralysis and fear are highly contagious feelings. They provoke passive "frozen" attitudes in nearly everyone. After natural catastrophies and war we may experience such a collective mental paralysis. We see this, for instance, in primitive tribes who, paralyzed by hunger, become more and more passive and apathetic and finally surrender to famine and death, even when food turned out to be not far away(21). Mental epidemics are nearly always connected with fear, exhaustion, and famine, causing apathy and inertia, providing a fertile ground for deluded thinking. Isolation and the frustration resulting from it through lack of communication can have the same effect.

Various religious sects practice fasting and systematic bodily exhaustion intentionally to induce a state of greater mental receptivity in their followers. Asceticism furthers the formation of hallucinations, while mass asceticism paves the way to mental mass contagion and delusion.

Sophistication and literacy do not protect people again mental contagion. Simple literacy often promotes conformism, while mere sophistication without emotional maturity makes people more receptive to intellectualized suggestions. It is not difficult to cause mass contagion even among sophisticated people. During a festive cruise it is only necessary to call "shipwreck" to cause collective hallucinations of drowning and wrecks. On troopships during the anxious tension of war we had to deal daily with mass hallucinations of discovery of hostile "U" boats. Since the Sputniks went into

the air, the mirages of mysterious flying saucers from outer space have increased again.

Collective psychoses were already clearly observed by Greeks and Romans. We have the examples of the mystery cults whose members assumed various ecstatic attitudes climaxing in epileptic convulsions. The Greeks sometimes referred to those convulsions as contagious satyr-delusions.

Epecially the rites of public dance and revival restores the magic realm of infancy, the return to a blessed state that has passed. In the mass, where one's anonymity is preserved, unconscious drives are more easily discharged and the feeling of merging, of equalization and mutual participation is enhanced.

At present we have the contagious rhythmic spread and expansion of Rock and Roll, already on the wane. The dance is of tremendous importance as a simultaneously binding and freeing element for coincidental and casual groups. Rhythm brings them together in a collective archaic dream as did the St. Vitus Dance in the Middle Ages.

Modern St. Vitus Dance has assumed various aspects. Collective fear still evokes the same restless movements among people. Modern man tries to escape his stress in the raving frenzy of automobiles and airplanes. Jazz, Rock and Roll, and other rhythms lure people to archaic depths while becoming part of a rhythmic mass of sound and movement.

A rhythmical call to a crowd easily foments mass ecstacy. Such provocation of archaic images is used in the strategy of every dictator. Rhythmic chant and rhyme have a coercive action on our civilization, as we can, for instance, observe in the seductive use of jingles in radio advertising. For hours and hours people cannot rid themselves of these jingles and unconsciously they hum with it the praise of the commercial product.

Certain archaic emotional movements can be very easily suggested to the masses, as for instance, tapping, clapping, tom-tom playing.

Sometimes mental mass contagion acquires a strange suicidal aspect as we observe in times of revolution. Romantic daring and audacious heroism may be chosen as a means of inconspicuous self-destruction and self-punishment. It is as if the mass simultaneously fears and loves the excitement of panic and explosion. Some even long masochistically for slavery. People in fear and panic do not like freedom. At such moments the receptivity to mental contagion and the submissiveness of the masses are greater than is usually supposed. Strangely enough it is Hitler who emphasized this collective submissiveness — the *Hingabe Bereitschaft* of the masses.

PROTECTION AGAINST MENTAL CONTAGION

Strength to withstand mental infection and psychic contagion is acquired through the utmost freedom in the exchange of ideas, which produces mature, self-assertive human beings, able to check their sensitivity towards archaic exchanges of feelings. Wherever there is communicative frustration mental contagion breaks through more readily.

Of clinical importance is the question how to increase the persuasion-resistance of the individual. Hunger, defective intelligence and racial and cultural habits may make for greater persuasive vulnerability. The fact that mere mechanical sophistication, through which individuals get lost in facts and ideologies, makes these people more vulnerable to mental infection and coercive techniques than those lacking such confusing sophistication.

Somatic infections do not stay on one side of a frontier, neither does mental infection. The more an international community will accept the concept of mental infection and its inherent dangers, the more it will have to establish rules to prevent such form of aggressive contagion. Yet, several "sacred" international principles will have to be overhauled. Nobody is, for instance "diplomatically" permitted even to criticize internal events of another state. This is called interference with another state's "sacred" autonomy. However, the notion that some sacred autonomies can be looked at as sources of dangerous mental infection will finally urge the

international community to formulate rules and laws to prevent such mental contagion. But it will take a long time before the world is mature enough to allow such mutual interference.

To correct contagious mass delusion and mental infection is one of the most difficult tasks of a free world founded on an International Charter of Human Rights. Mutual influence and persuasion are continually going on and do not recognize frontiers and iron curtains. Democracy pleads for freedom of thought and this means that it demands the right of all men to test all forms of collective emotion and collective thinking. To preserve this right, however, democracy must face the task of remaining alert and open-minded in order to keep itself free from blind fears and the impact of mental coercion and contagion.

Mental infection may be defined as the existence of a pathogenic inductor spreading pathogenic suggestions. Man, looked at as standing in the center of a web of manifold communications, will unobtrusively be pushed into a regressive form of empathy and sign acceptance whenever he perceives archaic sign-communication in his fellow-beings.

The innate signal code which seduces people into common regression is rather simple: fetal responses, rhythmic and infantile gestures play a principal role in this empathy-provoking behavior. Thus mental contagion may be redefined according to its dynamics as a common backward pull or a mental pushing of people into reminiscence, regression and infantilism.

Attention is asked for the growing danger of mental infection in a society where the technical means of communication have grown beyond the critical selective barriers of the individual psyche.

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A GUIDE FOR PHYSICIANS, HOSPITALS AND NEWS MEDIA

A guide to news relationships between newsmen, physicians and hospitals, the result of three years work by the professions involved has just been published in Wisconsin.

The booklet is the result of a study by representatives of newspapers, radio, television, physicians and hospitals. It is published by the State Medical Society of Wisconsin. Copies may be obtained through the office of The Arizona Medical Association.

Primary Aldosteronism
A New and Curable Hypertensive Syndrome

Matthew Talmadge Moorehead, M.D.
Robert O. Andrews, M.D.
William A. Phillips, M.D.

The authors not only record a clearcut, adequately documented case report of a relatively new and rare disease (theirs is the thirty-second case report in world literature) but also present a scholarly, succinct review of current knowledge about the specific disease and immediately related physiological disorders. The carefully selected bibliography adds substantially to the value of this excellent contribution by Arizona doctors to medical science.

PRIMARY aldosteronism (hyperaldosteronism or Conn's Disease) is a hypertensive disease originating in a tumor or hyperplasia of the adrenal cortex and associated with an excess of aldosterone, the normal sodium-retaining hormone of the adrenal cortex. Excess of this hormone causes hypokalemic alkalosis and certain of the following: vascular hypertension, nitrogen retention, hypernatremia, polydipsia, polyuria, hyposthenuria, periodic weakness and occasional tetany, but no edema or ascites.

Secondary aldosteronism is also associated with an excess of aldosterone but is not caused by primary disease of the adrenal cortex and is not always hypertensive, altho often accompanied by edema and ascites.

Primary *hypo*aldosteronism is the antithesis of primary hyperaldosteronism, being characterized by low aldosterone excretion, hyperkalemia and hyponatremia. Only a few cases of this kind have been reported and some of these are not too well defined.(1,2,3,4)

In 1952, Simpson and Grundy in England first separated electrocortin or aldosterone from the amorphous fraction of adrenal cortical extracts that remained after the thirty-odd known cortical steroids had been removed.(5) Later Simpson and associates (Swiss) succeeded in crystallizing this potent hormone(6). They re-named it aldosterone instead of electrocortin because of its aldeyhde radical replacing a methyl group in the C_{18} position of the corticosterone molecule(7). The theoretic possibility of the existence of a clinical syndrome such as aldosteronism was soon recognized but it was not until 1956 that the first case was fully documented by Jerome W. Conn, M.D. at the University of Michigan(8,9).

Aldosterone is the most active of the electrolyte-regulating (mineralocorticoid) hormones of the adrenal cortex. In excess it depresses serum potassium and elevates the sodium ion. It probably operates through certain cells of the renal tubular epithelium, causing them to excrete excessive amounts of potassium, ammonium and hydrogen ions, by an exchange-mechanism for sodium ions(10,11,12). Water excretion is also increased and the patient is unable to concentrate his urine (hyposthenuria), even after pitressin. The loss of plasma water causes dehydration,

The article was prepared by Doctor Moorehead, Drummond Clinic, Ridgecrest, California with the clinical assistance of Drs. Andrews and Phillips of Yuma, Arizona.

thirst and nitrogen retention with a clinical picture that not only resembles "potassium-losing" nephritis, but actually may produce a severe nephropathy(10,11,12,13,14).

Primary aldosteronism may be treated with possible temporary benefit by diet and suppressive drugs, but it is necessary to remove a tumor or hyperplasia of the adrenal cortex before a cure can be effected(3,10,12,15,16,17,18,19,20,23). The tumor is usually an adenoma but may be an adenocarcinoma and its cells often resemble the zona glomerulosa of the adrenal cortex, the zone that is usually hyperplastic in the non-neoplastic cases(8,9,17,18,19,20,30). This and other evidence(16) suggests that aldosterone is normally secreted by these cortical cells(16). In contrast to most adrenal cortical hormones, aldosterone is not much affected by corticotropin (ACTH) and is therefore probably not basically under pituitary control although it may be under hypothalamic hormone control (glomerulotropin)(12, 16,21,30).

In the secondary aldosteronism associated with most dropsical or edematous conditions such as congestive heart failure, nephrotic edema, hepatic ascites, and eclampsia, there is an increase in the urinary excretion of aldosterone just as in the primary form, but why edema is not present in the primary disease is not yet fully understood(12,21,22,24,25). And why all major surgical procedures cause a temporary state of secondary aldosteronism with increased urinary aldosterone, usually without gross edema, is also obscure(22). Only thirty-one cases of primary aldosteronism have been fully recorded but enough is already known about secondary aldosteronism to establish it as one of the more common conditions(12,18,21,22,24,25,26).

CASE REPORT

A 34-year-old, white female was admitted to Parkview Hospital, February 11, 1960, in a semicomatose state with a history of generalized weakness, occipital headache and vomiting. There was a past history of hypertension and muscular weakness for several years with occasional staggering gait. Toxemia of pregnancy had been diagnosed at the time of her first and second pregnancies, about ten years previously, and this was regarded as the onset and probable cause of her present hypertension. There was also a history of partial thyroidectomy for adenoma about two years prior to admission. Otherwise, the past history, family history and social history were unavailable or irrelevant.

The patient was a well-developed, well nourished, non-edematous, young white female having physical findings essentially negative excepting the following: marked A-V nicking of the vessels of the optic fundi; slight nuchal rigidity; old well-healed scar of thyroidectomy with underlying recurrent small nodular mass; and severe vascular hypertension (220/120 mm of Hg) with left ventricular enlargement. Neither paralysis nor paresis of the extremities was noted on admission and there was no involvement of the cranial nerves, although, later definite evidence of hemiplegia appeared. There were no physical signs of Cushing's Syndrome at any time.

The laboratory findings (2/13/60) were as follows: serum potassium 2.3 milli-equivalents per liter; sodium 138 mEq/L; carbon dioxide 33.8 mEq/1 (75 volumes per cent); non-protein nitrogen 58 mg. per cent; serology (VDRL) nonreactive: erythrocytes in the peripheral blood, 5.1 million per cu mm; hemoglobin 15.3 gm per 100 ml (98.7%); leucocytes, 15,800 per cu mm (polymorphs 89%, lymphocytes 10%, monocytes 1%); hematocrit 52%; specific gravity of the urine, 1.004; urinary albumen, 2 plus, sugar negative, leucocytes 4 to 12 per HPF. The electrocardiogram was interpreted* as demonstrating left ventricular hypertrophy compatible with hypertensive vascular disease, and a prolonged Q-T interval (0.44 seconds) strongly suggestive of hypokalemic alkalosis, often associated with primary aldosteronism, particularly in a hypertensive young female.*

Hospital Course: Despite all therapy, including potassium chloride, the patient remained in coma or semicoma throughout her brief hospital stay. The blood pressure continued around 210/110 mm Hg. The temperature ranged from 97 to 98.8°F.; the pulse rate, 60 to 82 per minute; respiration, 10 to 16 per minute. Evidence of left hemisparesis developed on the second hospital day and the spinal fluid was found to be grossly bloody and under a pressure of 600 mm of water.** On the final hospital day the blood

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**By Marvin Wall, M.D., Yuma, Arizona.

pressure dropped rapidly from 220/100 to 60/0 mm of Hg, cynosis became apparent and the patient expired at 4:30 A.M. (2/15/60).

Autopsy disclosed rupture of a lenticulo-striate branch of the right middle cerebral artery with severe hemorrhage into the ventricular system, chiefly on the right. This was regarded as the result of prolonged vascular hypertension and associated atherosclerosis. A firm, rounded, fleshy tumor mass (Fig. 1) having a slightly yellowish color and measuring 18 x 22 mm (wt. 1.8 gm) was found closely attached to the cortex of the right adrenal gland. Microscopic study of this tumor indicated that it was composed of cells resembling the adrenal cortex but showing

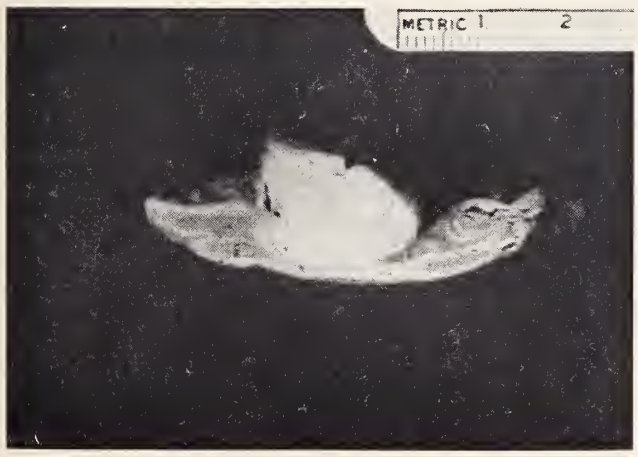


Fig. 1. Right adrenal gland with attached cortical adenoma.

considerable nuclear pleomorphism and some hyperchromatism (Fig. 2(a) and 2(b). The tumor was well encapsulated and there was no evidence of invasiveness or metastasis. The accompanying right adrenal gland weighed 6.2 gm. the left, 7.1 gm. Gross and histologic study of each adrenal revealed no other abnormality of note. The renal tubular epithelium showed slight vacuolation of the cytoplasm but no other significant change. No sclerosed glomeruli were noted at any point and little or no alteration in the vascular bed. The findings seemed to indicate that the vascular hyptertension was still reversible and essentially curable. An incidental finding was a recurrent (benign) adenoma (24 x 36 mm) of the thyroid gland. Gross and histologic study of all other organs and tissues disclosed no pathologic findings of note.***

Comment: A tentative clinical diagnosis of primary aldosteronism was made in this hyper-

***Jerome W. Conn, M. D., Professor of Medicine, University of Michigan (Ann Arbor, Michigan) kindly consented to review most of the material presented in this report, and is of the opinion that this represents a case of primary aldosteronism. The authors wish to thank Dr. Conn for his kind cooperation and very helpful suggestions.

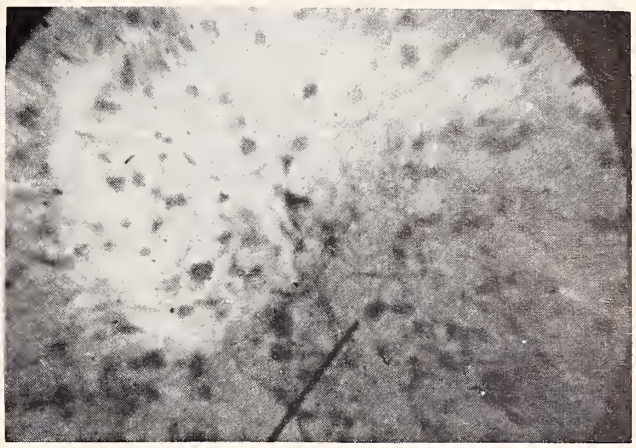


Fig. 2(a). Photomicrograph of cortical adenoma. (x 430).

tensive young female following the demonstration of hypokalemic alkalosis and typical electrocardiographic findings. This opinion was supported by the postmortem finding of an adrenal cortical adenoma. Additional evidence of increased aldosterone in the urine would have been desirable but the patient did not live long enough. Primary aldosteronism is of relatively recent recognition (1956) and complete diagnostic study is still difficult, but it is quite encouraging to note that we are dealing with a type of vascular hypertension that usually can be permanently relieved by adrenalectomy.

A low level of serum potassium is an extremely important finding in the early detection of primary aldosteronism. This hypokalemia formerly caused considerable confusion with "potassium-losing" nephritis, which it closely resembles. It also resembles diabetes insipidus in certain respects but is not corrected by pitressin. It resembles Cushing's Syndrome in several regards but differs markedly in the absence of bodily changes (moon-facies, hirsutism, buffalo hump, etc.). It differs grossly from the dropsi-

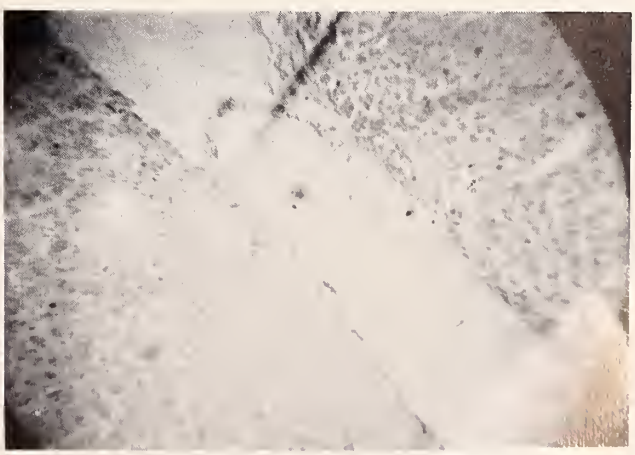


Fig. 2(b). Microscopic appearance of right adrenal cortex with attached cortical adenoma. (x 100).

cal forms of secondary aldosteronism chiefly in the absence of edema and ascites. Its relationship to familial periodic paralysis is close but not yet entirely clear; in this familial condition plasma potassium seems to escape periodically into the tissue cells in contrast to its continual escape into the urine in primary aldosteronism. (15,16,27)

In retrospect it seems likely that operative excision of this patient's adrenal adenoma at any time during the preceding several years might have relieved her hypertension and prevented ultimate death from a cerebro-vascular accident. We now feel that every patient with severe hypertensive vascular disease should have a careful search for evidence of this type of "essential" hypertension, particularly in a young subject, because of the excellent prognosis that a diagnosis of primary aldosteronism entails. Low serum potassium or hypokalemic alkalosis in a young hypertensive with suggestive electrocardiographic findings (prolonged Q-T interval and broad, low, T-waves) should be enough for a tentative diagnosis, particularly if supported by other evidence such as muscular weakness, polyuria, polydipsia or nephritis without edema. The finding of increased aldosterone in the urine with normal 17-ketosteroids and 17-hydroxycorticosteroids and a tumor or hyperplasia of the adrenal cortex on sugical exploration, certainly can be regarded as more definitive diagnostic criteria. On rare occasions, however, a patient may show no clinical findings of any kind excepting hypertension and possibly hypokalemia, yet adrenalectomy may disclose cortical hyperplasia and permanently relieve the patient's hypertension.(3) Aldactone and amphenone, aldosterone-inhibiting or blocking agents, have been used with some success in the differential diagnosis of primary aldosteronism and in the transient control of its blood-electrolyte abnormalities but amphenone is too toxic for routine clinical use and aldactone is quite new.(3,28,29, 30)

SUMMARY

A thirty-four year old female developed persistent vascular hypertension following toxemia of pregnancy at the age of twenty-four and was treated for this condition during the ensuing ten years. Her severe hyptertension was regarded as a sequel of the toxemia until her final illness with cerebrovascular accident, when clinical evidence of primary aldosteronism was detected. This diagnosis was supported by the finding of a typical adrenal cortical adenoma at necropsy. The excellent condition of this patient's kidneys, found at autopsy, seemed to indicate that excision of the adrenal cortical adenoma prior to the cerebrovascular accident might have corrected the vascular hypertension and prevented her untimely death.

From available reports, this is the thirty-second case of primary aldosteronism to appear in the literature.(18,26)

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Vesicovaginal Fistulas and their Surgical Treatment and Results

Virgil S. Counseller, M.D.

The careful investigation of the patient in accurate detail is of paramount importance in the successful management of vesicovaginal fistula. Cystoscopy must determine location, direction, adjacent weaknesses and incrustations, and threading of the fistula is done.

The technique of adequate exposure, closure, repair and management for vesicovaginal and uretero-vesicovaginal fistulae is discussed.

VESICOVAGINAL fistulas are surgical problems whether they occur subsequent to operations on pelvie viscera, or whether they occur post-delivery, post-radiation therapy, or whether they may follow trauma sueh as laeerations from fractured pelves. The repair of any one of these should be done only after much clinical investigation and a definte surgieal plan has been determined.

CLINICAL INVESTIGATION

When a vesical fistula is apparent from any cause, there is no need for immediate surgery. It might be advisable to insert a eatheter of the Foley type, to keep the patient comfortable and dry. Furthermore it is advisable to permit all evidences of trauma, such as inflammation, edema and bleeding, to completely disappear. This usually requires four to six weeks. If this is done, then a cystoscopic examination can be performed with better and more certain results. I would like to mention those things which should be observed cystoscopieally, that are of importance to the surgeon:

First, the location of the fistula, as to whether it is in the posterior wall, near the internal urethral sphincter, or adjaeent to the ureteral orifice, or involves the orifice itself. The repair of a fistula on the posterior wall is the simplest to effect. The repair of a fistula near the urethral sphincter is more difficult, and I think is followed by more recurrences and sometimes urinary incontinence. The fistula that is near or involves the ureteral orifiee is a speeial problem.

Second, it is important to know if the fistula has more than one opening. This is not uneommon. There may be a linear or diagonal sear in the bladder wall with a fistula at either end. Also, there may be a fistula that runs submucosally for a short distance and terminates in multiple openings. Defects in the bladder which radiate from the fistula itself must be seen and carefully described, since these represent weak areas in the bladder wall. A repair suture that goes through one of these defects may result in a recurring fistula.

Third, incrustations and stone formation must be searched for. These must be eliminated be-

Read at the 8th Congress of the Pan-Pacific Surgical Association in Honolulu, September, 1960.
Phoenix, Arizona.

fore any surgical repair is instituted. These are the result of urea-splitting organisms which are prevalent in an alkaline urine. Irrigations of the bladder with solution G and administration of antibiotics or sulfonamides are beneficial.

Fourth, each fistula should be threaded with a silk or linen thread at the completion of the examination. This is a very helpful guide for the surgeon at the time of repair, and is of real value in exposing the fistula, particularly if the vaginal approach is used.

The fistulas which I wish to discuss in this communication are the most frequently encountered following pelvic surgery. Those located in the posterior wall or trigone; those involving the urethral sphincter; those adjacent to the ureter and those involving the ureteral orifice itself. The fistula which involves the urethral sphincter most often is a complication of vaginal hysterectomy or repair of cystocele. The others that I mentioned usually are a complication of total abdominal hysterectomy.

In previous communications I have detailed and emphasized the technical errors that may account for these defects. Also, I have attempted to show how these accidents might be prevented. Therefore I will not refer to them here.

FISTULA INVOLVING THE URETERAL ORIFICE

This is important for two reasons: (a) It is the most fixed part of the ureter in its entire course; (b) the upper urinary tract on the affected side is compromised. The fistula may be a uretero-vesico-vaginal fistula so that the repair will be somewhat different than it would be if the fistula is just adjacent to the orifice and does not involve it directly.

The problem of importance is whether there is an associated ureteritis, ureterectasis, pyelitis, hydronephrosis, nephritis or cortical abscesses. In spite of injury to the ureter or its orifice the kidney may continue to have good drainage, and if so the chances are good that troublesome infection with chills and fever, will rapidly subside and the kidney can be saved. But if the orifice is partially obstructed the kidney may be so involved that the safest procedure is a nephrectomy, providing there is a normal kidney on the opposite side.

If the ureter and kidney pelvis are almost normal, the ureter may be reimplanted into the bladder about an inch above its original location. Most of these ureters will function normally if not obstructed where they enter the bladder. The fistulous defect in the bladder can be repaired later, easily, since the new orifice is well removed from the fistula.

Rather than do two separate procedures, abdominal and vaginal, I would like to suggest that the entire operation be done vaginally or transvesically at one time. A catheter is placed in the ureter by the surgeon at the time of repair. An incision is then made along each side of the ureteral meatus for about 1½ cm., (Fig. 1) thus freeing the ureter and elevating it within the bladder. The defect in the bladder is then

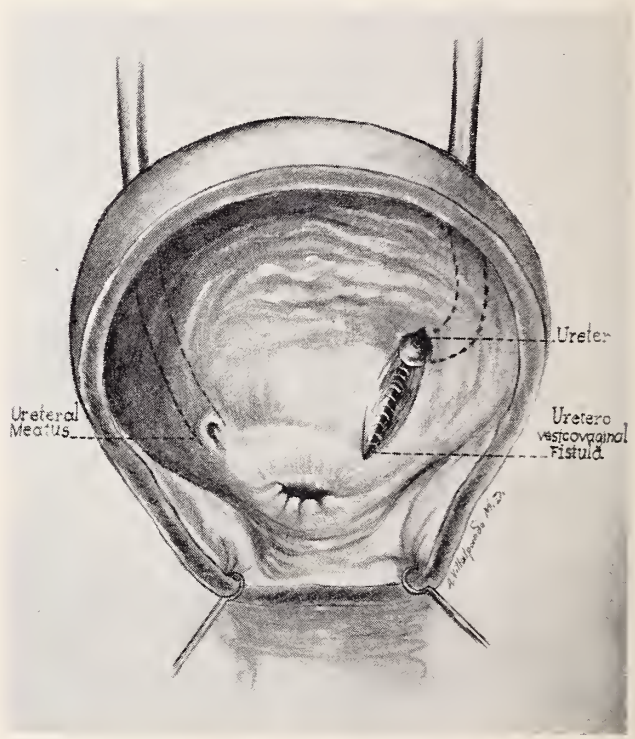


Fig. 1. An incision 1.5 cm. is made along each side of ureteral meatus elevating the meatus within the bladder.

repaired up to and behind the new ureteral orifice. (Fig. 2). The catheter is then brought out the urethra and left in place for one week. This is essentially a reimplantation of the ureter, but it is done intravesically.

This same technique can be used with advantage in closing a fistula which is adjacent to the ureter but does not involve it. These fistulas

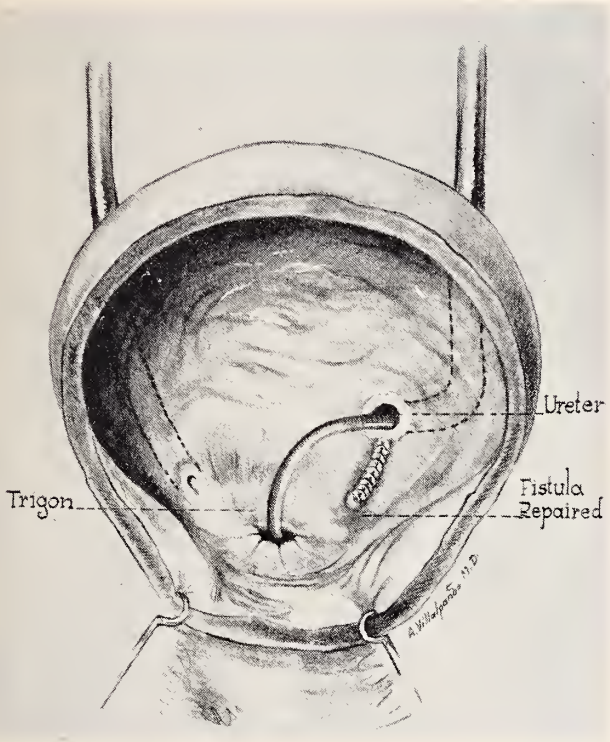


Fig. 2. Repair of defect below and behind the ureter. Catheter in ureter and out the urethra.

often recur since there is not sufficient bladder tissue of good quality to effect a closure. Therefore the ureter should be raised somewhat to permit good closure behind the ureteral orifice. After healing has been complete the ureteral meatus will be seen sitting on a mound or stump but functioning satisfactorily.

FISTULA IN OR NEAR THE INTERNAL URETHRAL SPHINCTER

This fistula is one that after repair may produce insufficiency of the sphincter from scar tissue. Total urinary incontinence has been known to occur. It is one of the most difficult to close and about the only type where a cystostomy should be performed, since it is inadvisable to leave a urethral catheter adjacent to the area of repair. A recurring fistula is not uncommon in this region. If the repair is not too extensive but adequate, the patient may be placed on intermittent catheterization for two to three days until she can void. The passage of urine over the suture line is not as detrimental as leaving a urethral catheter in the bladder.

METHODS OF APPROACH AND SURGICAL REPAIR

I have discussed many times the types of procedures in these cases and have repeatedly suggested the advantages of the vaginal approach in 95% of all of them. But actually I doubt if it makes very much difference. The same results will be attained by meticulous surgeons. The method should be selected which is the most satisfactory in his hands, that is, which permits the greatest percentage of successful closures. I need not mention here the numerous techniques which have been described for transvesical repair of these fistulas. My feeling is that they are more difficult than vaginal repair, more time-consuming and entail much more disability for the patient. Any abdominal incision invites more risk and morbidity than a vaginal one. It is disturbing to have a recurring fistula after an abdominal closure of a vesical fistula. Recurrence after a vaginal closure is not so depressing to the patient, since she has not been disabled very much.

However, there are certain fistulas that must be done abdominally. These are the high fistulas developing in the vaginal vault. A fistula which you cannot expose or visualize, you should not attempt to repair vaginally. These usually are fixed from an inflammatory process which is caused from attachment to the sigmoid in some instances. If this is the situation, then in time there will be, most likely, a rectovesicovaginal fistula. An abdominal approach is definitely indicated to dispose of both the bladder fistula and the sigmoidal problem.

I feel quite sure, myself, that the vaginal approach to other vesicovaginal fistulas has many advantages over other methods as regards both the patient and the surgeon. The patient's convalescence certainly is much smoother. Mobilization and excision of scar tissue, which are of the utmost importance in a successful closure of a fistula, can be more easily accomplished. I would like to re-emphasize this point once more since we all know that scar tissue does not heal well and is a predisposing factor to recurrence. Some surgeons hesitate to do this for fear of making the fistula larger. It does not matter at all how much larger you make it. Fresh tissue always heals better and faster.

As previously stated, exposure and mobilization are prerequisites to accurate excision of scar tissue and surgical repair. The patient's position on the table to *accurately* visualize the field is best done in the Kraske position with the but-

tocks well elevated by means of Pender's frame. If a Sims speculum is placed under the perineum with good retraction by the second assistant, the entire anterior vaginal wall and vault are directly exposed. A clear understanding of the pelvic anatomy with the patient in this position is necessary.

A vertical incision which surrounds the fistula will permit you to see at once the extent of the scar tissue. The fistula will always be larger after this, and you can examine both ureteral orifices. The peritoneal cavity frequently is opened as the scar is removed. The Sims speculum is now frequently replaced by a Deaver retractor, which extends into the peritoneal cavity so that satisfactory exposure within the abdomen is obtained; the condition of any remaining adnexa on either side can be noted, as well as whether any loops of intestine are attached that might become obstructed later. The sigmoid should be carefully taken away from the region of the bladder.

The next step is to attempt to discover in which direction the fistula extends if other than directly through the vesical wall. The extent of scar tissue is now determined, and completely excised. The vaginal flaps may have to be separated farther laterally and the pubocervical fascia arranged for proper utilization. These can only be done vaginally to advantage.

The manner in which the edges of the bladder are sutured together is extremely important. The plan should simulate that of an enteronastomosis of the small bowl which seems to me to offer the greatest assurance against leakage. The small intestines, for example, contain semi-liquid feces and if leakage occurs, general peritonitis and perhaps death may follow. The bladder with water in it should be just as carefully put together to prevent leakage as in the case of the bowel. The edges of the bladder should be brought together with absorbable suture material. I use three rows of No. 00 chromic catgut. The first row picks up the mucosa, a continuous suture going directly through the mucosa. The second and third rows begin and end well beyond the previous suture. After the third row of sutures has been placed, it is wise to put some interrupted stitches of chromic catgut No. 1 in the midportion of the region of repair. In the majority of instances it is better to repair the defect transversely or diagonally rather than anteroposteriorly. Closure of the vaginal wall should be done anteroposteriorly in the direction in which excision of the scar of the vaginal wall was done. This adds length to the vagina instead of shortening it.

CAUSES OF FAILURE OF SURGICAL REPAIR

It is my opinion that any discussion of the surgical treatment of vesicovaginal fistula is incomplete without stating some of the most common causes of failure. These have been stated before, but should be repeated for emphasis. Among them are the following: (1) Inadequate exposure from various positions; (2) failure to excise accurately all scar tissue of the walls of both the vagina and bladder; (3) too early operative intervention; (4) closure of the wall of the bladder under too much tension; (5) accumulation of blood between the vaginal wall and the bladder, or hemorrhage directly into the bladder; (6) failure to adhere to the method of closure which protects the upper and lower angles of the suture line.

RESULTS

The results of surgical treatment should be determined on each type of fistula rather than on the entire group. The problem of surgical repair is often different. The time element since the accident occurred, and the number of repeat repairs, influence the result. However, if we confine our results to closure of all types and conditions it is 88%, cures.

Since 1946, annual admissions in all hospitals have increased over 50 per cent; the number of employees has increased more than 75 per cent; and total expenditures have increased from just under $2 billion to more than $7 billion.

(American Hospital Association)

Q-FEVER (Coxiella burnetti)

V. H. Ueckert, D.V.M., M.P.H.

Stanford F. Farnsworth, M.D., M.P.H.

Q-Fever, first discovered in Australia in 1937, became recognized as an important cause of human illness during World War II in the Mediterranean theatre. Since that time it has been found in many areas of the United States, especially in California. Infection with the rickettsial agent of this disease usually results in an atypical pneumonia in humans. Fortunately, aureomycin is fairly effective in treatment.

Infection exists enzoologically in animals raised for meat and milk. Transmission is by air-borne dessemination of the infectious agent in contaminated premises, such as barns, meat processing plants, etc. Raw milk from infected cows may serve as a source of infection.

Laboratory tests have shown that milk samples from 86 per cent of the dairies supplying milk for Maricopa County give evidence of the presence of Q-Fever infection among the cattle supplying the milk. Proper pasteurization will render such milk safe for consumption.

So far there has been little investigation of human infections in Arizona. However, in one brief and limited serological survey of several hundred human sera in Maricopa, five individuals with immune bodies were revealed.

The Maricopa Health Department plans to keep a close look-out for additional human cases and for an extension of the disease among cattle. It is suggested that physicians keep the diagnosis of Q-Fever in mind when dealing with patients having signs of atypical pneumonia.

Q-FEVER is one of the latest diseases to be added to the list of the zoonoses of public health importanee that now exist in Marieopa County and the United States. A preliminary survey, eonducted by the Marieopa County Health Department, of produeing dairies in Marieopa County indieates that an astronomical 86% of dairy herds are infected with Q-fever.

The early etiology of the disease was not completely understood by its diseoverer, Derriek(1), in Australia. Beeause Derriek had many questions that remained unanswered about the disease it posed a "query," henee the name Q-fever.

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Since the diseovery of the disease agent *(Ricketesia burnetti)* approximately twenty-five years ago, the disease has been determined to be a menaee to publie health and has been found to infeet significant proportions in 51 eountries on five eontinents.

The disease was first reported in the United States in Montana in 1941 by Hesdorfer and Duffaloe(2). Following this, several outbreaks of the new disease entity were reeognized in the United States. Since Young's(3) investigation of the outbreaks, a section of the Rocky Mountain Laboratory of the U. S. Public Health Service in Hamilton, Montana has been devoted to the study of Q-fever.

About ten years ago a detailed study was made of all of the rickettsia and their nomenclature(4). As a result, the scientific name of the causitive organism of Q-fever was changed from *Rickettsia burnetti* to *Coxiella burnetti.*

This study demonstrated that when *C. burnetti* was compared with *R. Prowazeki* (louse-borne typhus) the new organism was filterable, much more resistant to chemical and physical agents, and incapable of inducing the production of agglutinins to the *Proteus* organism (Weil-Felix Reaction). In addition, humans infected with the new agent did not exhibit the skin rash typical of other rickettsial diseases.

CLINICAL PICTURE IN MAN

The clinical picture in man is one that poses a problem for the physician. The diagnosis may be difficult to make. During the first few days of the patient's illness, prior to the pulmonary lesions, the disease may resemble many acute febrile conditions that are evident in typhoid, paratyphoid, influenza, meningitis, dengue, sandfly fever, malaria, nonicteric leptospirosis and other rickettsial diseases. After the pulmonary changes develop, Q-fever resembles primary atypical pneumonia, acute bacterial pneumonia and other diseases that are capable of producing pulmonary changes. Here in Arizona, Q-fever may resemble coccidioidomycosis. The above mentioned pulmonary changes were noted by Rivers who stated that in almost all patients, even the mildly ill, the x-rays demonstrated evidence of pulmonary involvement.(5)

Mortality from the disease is usually low as was illustrated by the outbreaks recorded by the Commisison on Acute Respiratory Disease during and following World War II. (American Journal of Hygiene, 44, 133, 1946).

Since many cases are subclinical and go untreated, many questions remain unanswered about treatment. However, studies made by Clark and Lennette(6) indicate that aureomycin is useful in treatment (3 to 4 grams, orally daily) for several days. Terramycin is considered equally as useful, but it is believed that penicillin, streptomycin, and sulfonamides are of little value.

Q-FEVER, A PUBLIC HEALTH PROBLEM IN ARIZONA

Several years ago DiSalvo and Wertman(7) conducted a study of Q-fever in animals in Arizona.

In this animal study, the complement fixation technique was employed. The results of this survey indicated that Yuma and Phoenix had the largest number of positive serum reactors (Phoenix area — 36 or 39.6% of the 91 cows tested and Yuma — 80 or 75.5% of the 106 cows tested.) A small number of goats were tested and there was evidence that a large percentage of these goats had been exposed to *C. burnetti.* Of the 751 cattle, sheep, and goats tested, 299 or 30.5% were positive reactors for Q-fever when the complement-fixation technique was used.

Since Q-fever has such broad host range (numerous wild and domestic animals, ticks, and man), the disease could become a definite public health problem with serious consequences. In addition to the occupational hazard to dairymen, veterinarians, sheep herders, and slaughterhouse workers, every individual who drinks raw milk may be drinking milk which contains *C. burnetti.* Important characteristics of the disease are that in cows the agent is found in the lactating mammary gland or gravid uterus. Extensive contamination of the environment occurs from the causative organisms expelled in infected fluids and placentas discharged at parturition. Once introduced into an area it readily infects other animals — infecting up to 45% of animals within six months. It is relatively resistant to dessication, is capable of being airborne, and since the feces of ticks and feces and secretions of cattle may contain these organisms the possibility of infection is great.(8) Questions related to the results of pasturization of milk infected with the organism have not been completely answered. The flash method (161°F. for 15 seconds) has resulted in the destruction of the rickettsia, but the "hold" or vat pasturization (143°F. for 30 minutes) has given inconsistent results, with the belief that organisms surviving this method would not constitute a minimal infectious dose for man.(9) Another interesting fact is that some dairy workers get free milk, often unpasteurized, as part of their salary, not to mention the raw milk that is

probably sold by some dairies and the one cow "dairy".

COXIELLA BURNETTI IN MARICOPA COUNTY

The incidence of this disease in humans in Maricopa County has not yet been determined. However, early in 1959, Doctor K. T. Maddy and Doctor Lauri Luoto(10) used serum collected from some packing house workers in the Phoenix area for a preliminary screening of individuals that might have contracted the disease. The results indicated that 3 out of 228 workers had been infected. A continuation of this screening program has been carried on at the Maricopa County Health Department involving 545 human sera. Of the 545 capillary tube agglutination tests on human sera from food handlers, 2 were positive. A screening of milk from dairy cattle was initiated by Doctor K. T. Maddy and Doctor Lauri Luoto, resulting in about 40% of the 144 dairy cows tested having a positive reaction for Q-fever.

In addition to the study of human sera conducted by the Maricopa County Health Department a preliminary survey of the producing dairies has been done. Of the 358 producing dairies in Maricopa County, approximately 86% of the herds were positive for Q-fever. The samples tested were obtained by taking a sample of milk from a tank in which the dairy owner had combined all the milk from his producing animals (pooled sample or composite herd sample). This does not indicate per cent of individual animals infected but does indicate dairy herd infection. All specimens were screen tested by means of the capillary agglutination test. This test is a simple, rapid and economical test applicable to either milk samples or serum. The pooled milk represented a dilution of milk from infected animals by that from uninfected animals in the same herd. All positive reactions were recorded without regard to degree of positivity since this was a screening survey. The test reactions varied from slightly positive to strongly positive.

No attempt was made to isolate *Coxiella burnetti* because facilities were not available, but all positive milk samples were retested to validate the first test readings. (The Arizona State Laboratory conducted a similar screening with results as high as 88% positive.) All procedures were described by Dr. Lauri Luoto, Senior Veterinarian at the Rocky Mountain Laboratory, Hamilton, Montana, and the antigen was furnished by Dr. Luoto.

FUTURE Q-FEVER PROGRAMS IN MARICOPA COUNTY

The County Health Department has faced the fact that it is dealing with an animal disease agent which survives adverse conditions, is readily airborne and is one that eventually spills over into the human population as a result of universal infection of animals within a particular region.

Future programs will be guided by the evaluation of the results of the pooled milk from the 358 producing dairies in Maricopa County.

Further evaluation of these studies of pooled milk is required before a definite program can be initiated, but the following tentative program is scheduled:

BOVINE

1. Capillary-tube agglutination tests on pooled raw milk from each of the producing dairies will be done periodically.

2. Follow-up on selected herds for periodic studies to ascertain changes in infection status.

3. Dairy animals imported into area will be followed if negative at time of arrival.

4. Infection of various species will be studied.

5. A vaccination evaluation program is anticipated through the assistance of the U.S.P.H.S. Rocky Mountain Laboratory.

6. Air sampling around infected dairies.

HUMAN SERUM SURVEY

1. Normal sources — pre-employments, etc.

2. Selected Human Serum
 a. Non-occupational groups will be studied
 (1) Hospitalized patients — especially upper respiratory cases
 (2) Some diagnostic serums
 b. Occupational
 Slaughter house and rendering plant employers, farmers, veterinarians, and dairy workers.

c. Miscellaneous Studies.
 (1) Epidemological investigation will be made in all positive human cases.

Like most newly recognized diseases that constitute a menace to public health, Q-fever will create confusion in various segments of the population, but confusing as it may be, the problem must be faced by physicians, health agencies, veterinarians, farmers and residents of the county.

(Note: Because 90% of milk consumed in the State is produced in Maricopa County, a state wide screening program will be initiated by the Maricopa County Health Department with the cooperation of Dr. Phil Hotchkiss, Public Health Veterinarian for the Arizona State Department of Health.)

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HOSPITALS, DOCTORS, AND DOLLARS

Hospitals, Doctors, and Dollars, by Robert M. Cunningham, Jr., editor of *The Modern Hospital* magazine, examines such subjects as hospital public relations, hospital economics, professional organizations, and nursing and personnel problems. It critically discusses many current — and often controversial — topics, including trends and developments in prepayment for hospital and medical services, the role of government in providing medical care, political activities of medical organizations, and the emergence of hospital administration as a profession.

Cunningham writes with an insider's knowledge but an outsider's point of view. He provides a sound basis for improved understanding between hospital administrators and doctors using hospital facilities.

Emotional Struggles In Adjusting To Old Age. Resume Of Some Of The Important Points.

Beverley T. Mead, M.D.

Pressures of social change are demanding that more physicians concern themselves with problems of the aged, emotional as well as physical. The demand will increase. If this does not stimulate us to more interest and activity in this field, let us also consider that the day will come when we will wish, in our own old age, that more was known and more was done in the field of geriatrics.

The factors affecting and creating emotional problems in the elderly are reviewed. Practical approaches to their resolution and management are suggested.

IT IS obvious that all of us throughout our lives need to maintain a feeling of self-esteem and satisfaction. In old age, with less future to look forward to, the need is as great or greater than before, but our sources of satisfaction diminish. This is the greatest single factor in considering emotional problems of the aged. Physical limitations, loss of friends, inability of maintaining the former degree of success in earning a living, are all incidental to it.

In helping the elderly to an improved adjustment, whatever the physician suggests should relate in some way to increasing or sustaining the elders' sources of satisfaction. Fortunately, man is pretty flexible and inventive and serious problems of old age adjustment belong to a minority. Still, this minority is increasing in actual numbers, if not in percentage of the total geriatric population. Some reasons for this are our increasing life expectancy, our shift to urban living, our earlier and often enforced retirement, and loosening of family ties.

What can the physician do? First, remember that prevention is the strongest weapon. The earlier in life that one anticipates the necessity for change and prepares himself with a variety of interests and an eagerness for new experiences, the less concern or anxiety will appear in the declining years. Second, the connotation of "retirement" must be changed. Retirement should not be an end; it should be regarded as a beginning. Even an increase in over-all activity may occur. A good definition for retirement could be "When you stop doing what you *have* to do and start doing what you *want* to do." Third, the "what you want to do" of retirement may include recreation, but recreational activities should not take up more than fifty per cent of the active time. A good part of the retirement activity must be in more construc-

Summary of an address presented at the Symposium on Aging, The Hotel Westward Ho, Phoenix, Arizona, March 18, 1961. To appear shortly in Postgraduate Medicine.

tive or creative pursuits. Fourth, retirement plans may follow the pattern of the previous life's work, but some of the most successful ones come from total departures from former activities. Fifth, remember that retirement "work" need not demand financial returns. For the old-timer in particular, the sense of a necessary job well done is usually more important than the income. Sixth, community plans for elderly members are to be commended, but almost invariably too much emphasis is placed on recreation and external appearances. Seventh, caution the agitator who wants to solve the problems of retirement by postponing the day of it. The person who is not prepared for retirement at 65 will not be ready at 70 or 75.

In working with elderly people we must accept some increase in emotional lability and some return to behavior, which, like a child's, is more concerned with immediate and superficial satisfactions. Such behavior usually reflects a mechanism of denial, rather than mental deterioration, and one can rarely realistically make long-range plans at such a time. More complicated variations of this denial mechanism are unexpected religious conversions, food faddism, and nosily minding other people's business. Reassurance to the children and friends that this is not unusual or serious behavior may be the only action necessary.

Fortunately now we have available many medications which may help modify the troublesome moods of elderly patients. Too many physicians think of the tranquilizers and antidepressants as more valuable for younger patients. Extra caution may be indicated with elderly patients, but certainly do make maximum use of available medication.

Pressures of social change are demanding that more physicians concern themselves with problems of the aged, emotional as well as physical. The demand will increase. If this does not stimulate us to more interest and activity in this field, let us also consider that, if we are fortunate, the day will come when we will wish in our own old age that more was known and more was done in the field of geriatrics. We must not let our own fears of old age take our interest from the geriatric patient.



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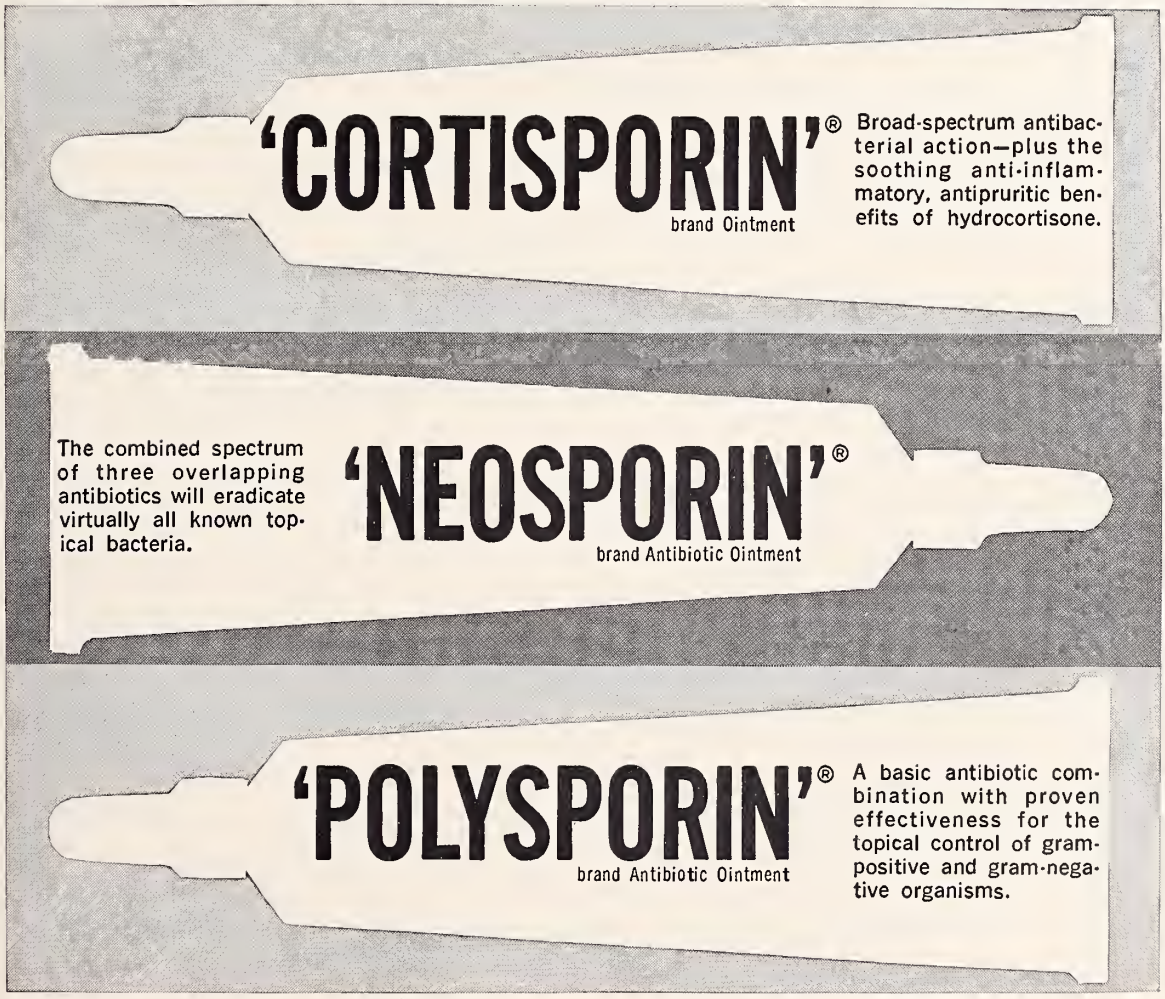
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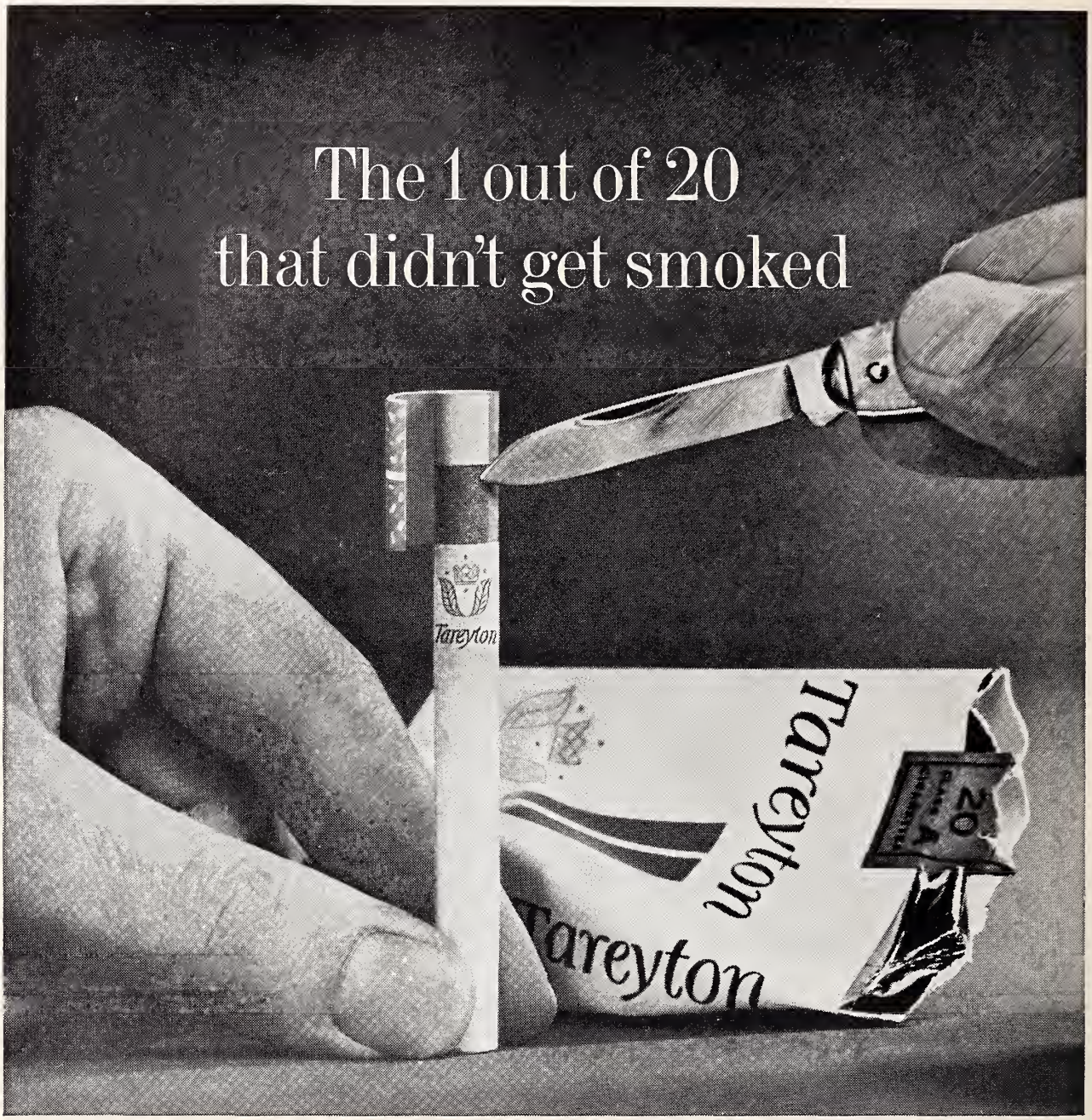
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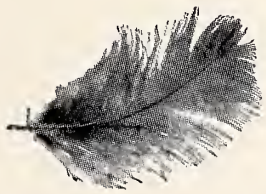
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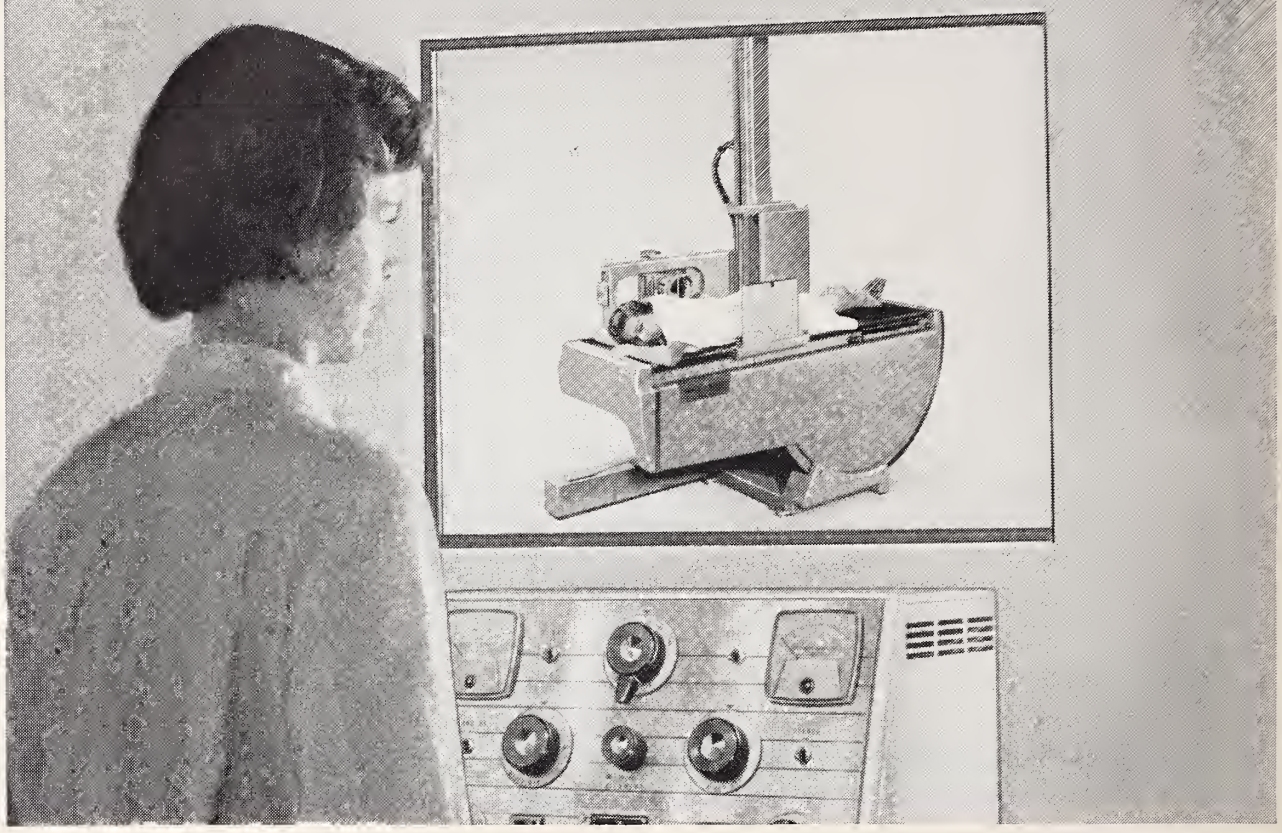
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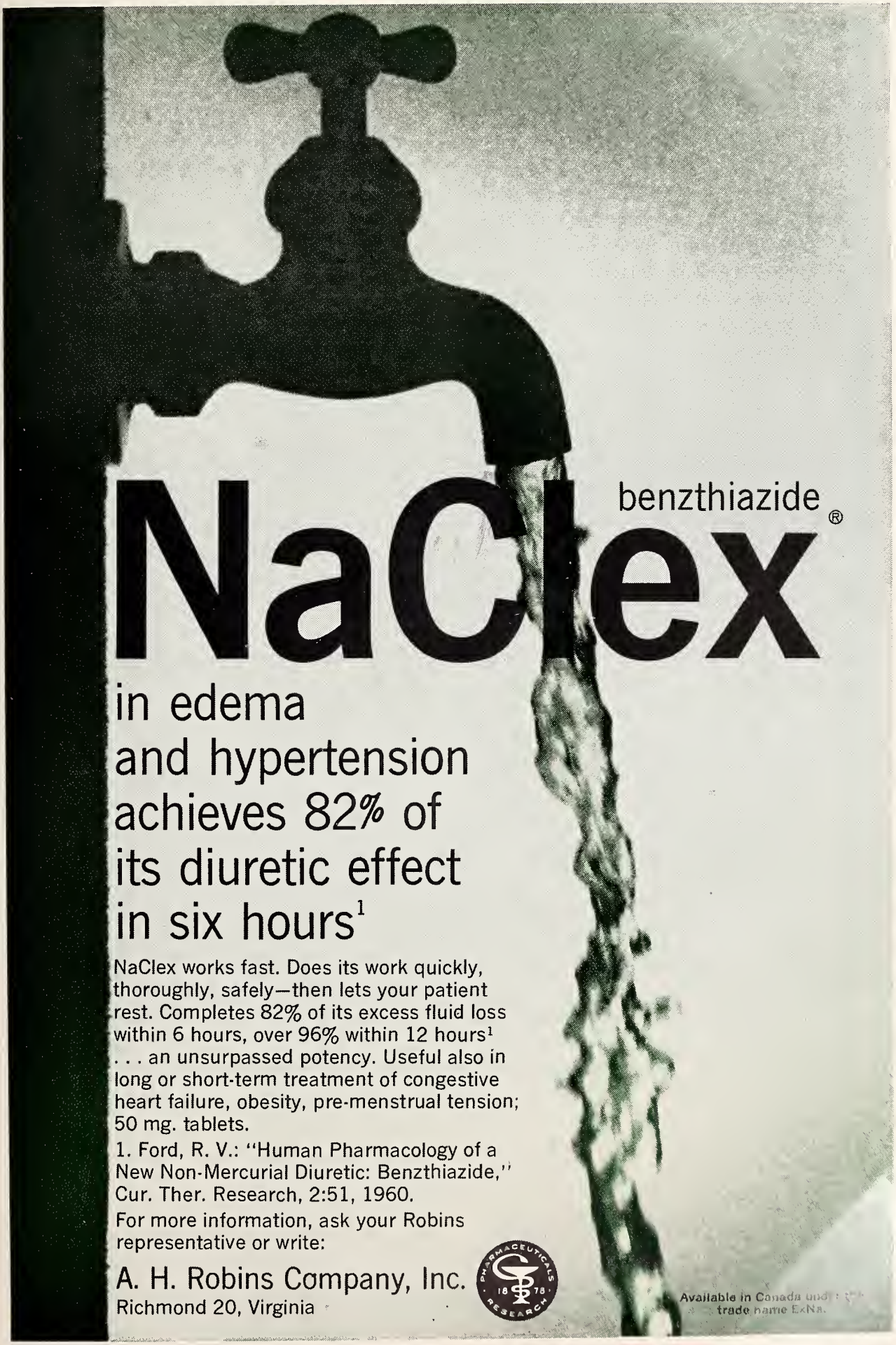
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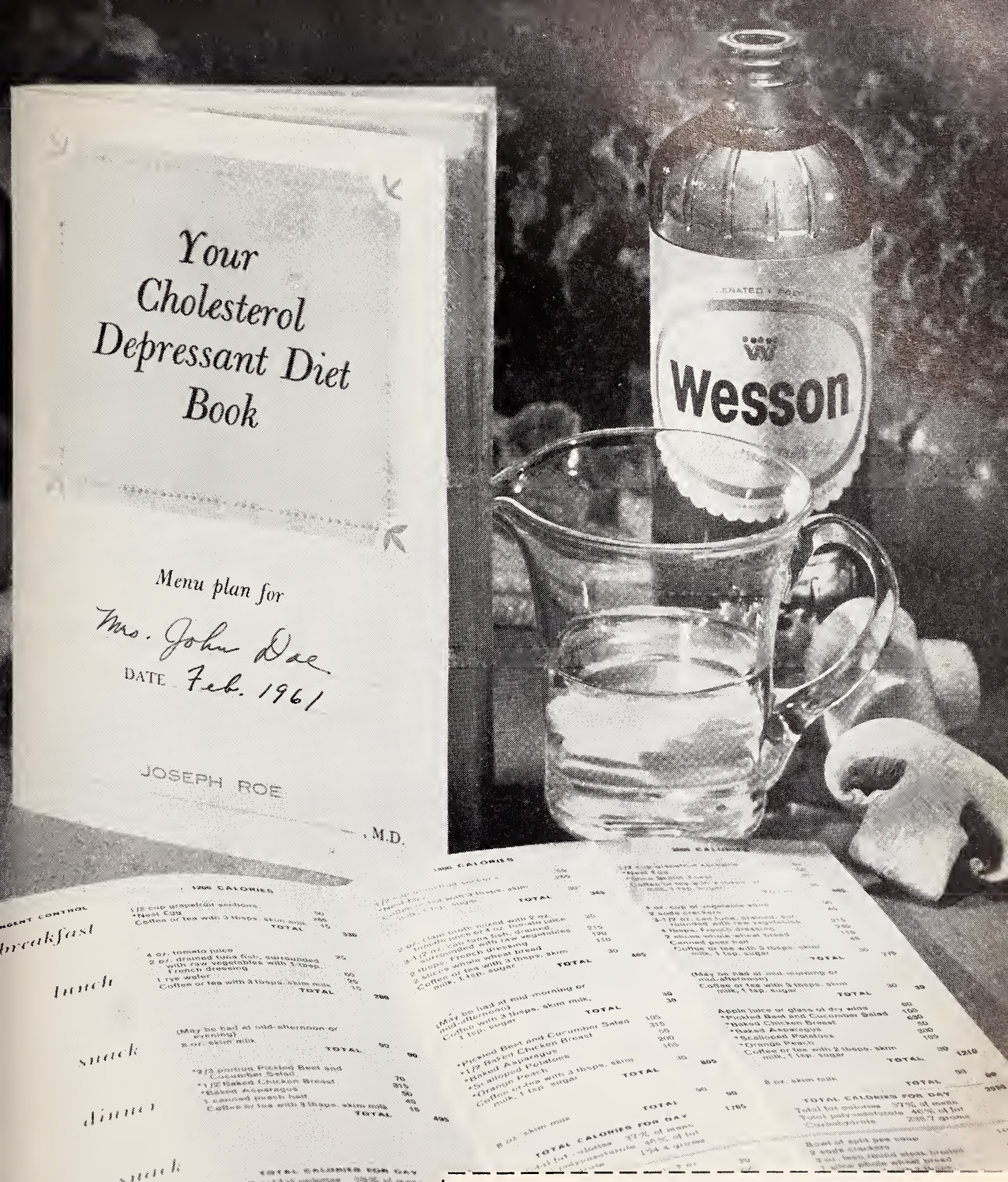
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Medical Society of the United States and Mexico

Guide Posts to Accomplishments

The Medical Society of the United States and Mexico has reached, in point of years, maturity and experience, a position which enables its founding members to sharpen their hindsight and assess their labors, their observations and their results so as to better orient their prespective for future planning.

After five years of living and working with the thoughts, ideals and aspirations of this Society, we have become increasingly aware of its mission. We have also become conscious of the fact that the Society, as a purposeful operational unit, so to speak, has a good deal of substance and has assumed great responsibilities. We have also become cognizant of many other avenues of productive activity encompassed in their basic aims and tenets.

The current resurgence of interest in Latin American affairs and the revamping of our own intrahemispheric foreign policy spurred by the recent events in Cuba, indicates that a reassessment of our Latin neighbors is in progress. This has made us more acutely aware of the actual and potential missions of our organization.

The outgoing President's speech (Dr. W. R. Manning) given at the inaugural session of our last meeting in Guadalajara in November 1960, (See *Arizona Medicine*, Vol. 18-No. 4, pp 33-A) might well serve as a guidepost to the accomplishments this Society should set its sights on.

Our raisons d'etre fall into three categories: scientific, political and social. Our scientific and professional interests serve as the common denominator that primarily motivates our getting together in a common language that binds us professional men and women from two bordering countries. More specifically, we should strive to bring to the level of discussion such scientific items that are of peculiar interest only to the medical people of Mexico and the United States, such as Public Health problems of the border areas and those in the post-graduate educational field of internship and residency training.

Our political endeavors should stimulate our Mexican brothers and ourselves to work toward an habitual attitude of tacit diplomacy in all our mutual dealings. There should permeate our thinking a subconscious drive for friendly rapprochement. We should sell America no less than we should expect the Mexicans to sell Mexico to our receptive ears. We should bear our standards with persuasion and clarification rather than with haughtiness and disdain.

The social aspect of our organization concerns itself with the development of friendships through our joint activities. It is no more than the individual extension of the diplomatic attitude. It includes linguistic efforts on both sides as well as the exercise of courtesy, understanding and generosity, and the desire to know and appreciate each other better.

In these three provices in which the purposes, ideals and missions of the Medical Society of the United States and Mexico thrive, we the members should operate diligently and be motivated accordingly.

We definitely abhor the thought that our Society is no more than a travel agency for pleasure trips, but we are proud of the members who join in our activities, driven by the interests, ideals and ambitions set forth above.

With these thoughts to ponder about we anticipate the pleasure of your company at our next meeting in Hermosillo, Sonora on December 6, 7, 8, 1961.

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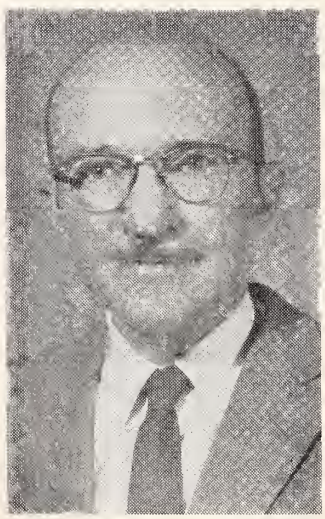
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The President's Page

1961 — 70th Annual Convention Arizona Medical Association

Leslie B. Smith, M.D.



Leslie B. Smith, M.D.

Again, we have completed a most successful scientific-business meeting, or so I have been told by many. The total registration was 419, exceeding all previous years. This registration is equal to over 40% of our membership. This is a distinctive record and one to which we can point with pride. Spot checks revealed that the attendance at each of the scientific sessions averaged approximately 100, and actually there were 87 in attendance at the next to last paper and 55 were in attendance for the last scientific presentation. Considering the diversity of subject material presented, these attendance figures testify as to the quality of our speakers and the subject material presented.

Although the general report relating to the convention was to attest its excellency, we know that it was not perfect. We have again received the same constructive criticism of the past, namely, that the scientific papers do not cover all the special fields of medicine. The custom of the past was continued this year, namely, that of rotating from year to year the scientific subjects covered on a proportionate basis; thus any single year will, of necessity, have omissions. This deficiency can only be avoided when our membership attendance becomes sufficiently large to afford an opportunity to successfully schedule concurrent sessions.

Anyone's analysis of a convention such as ours must be tempered by the fact that heretofore

the scientific sessions have been programmed by inexperienced amateurs who served only one year.

The changes in the bylaws this year, relative to the Scientific Assembly Committee, will place the future responsibility in the hands of those who will have continuing experience. As we continue to grow our conventions will become more meaningful to greater numbers of our members.

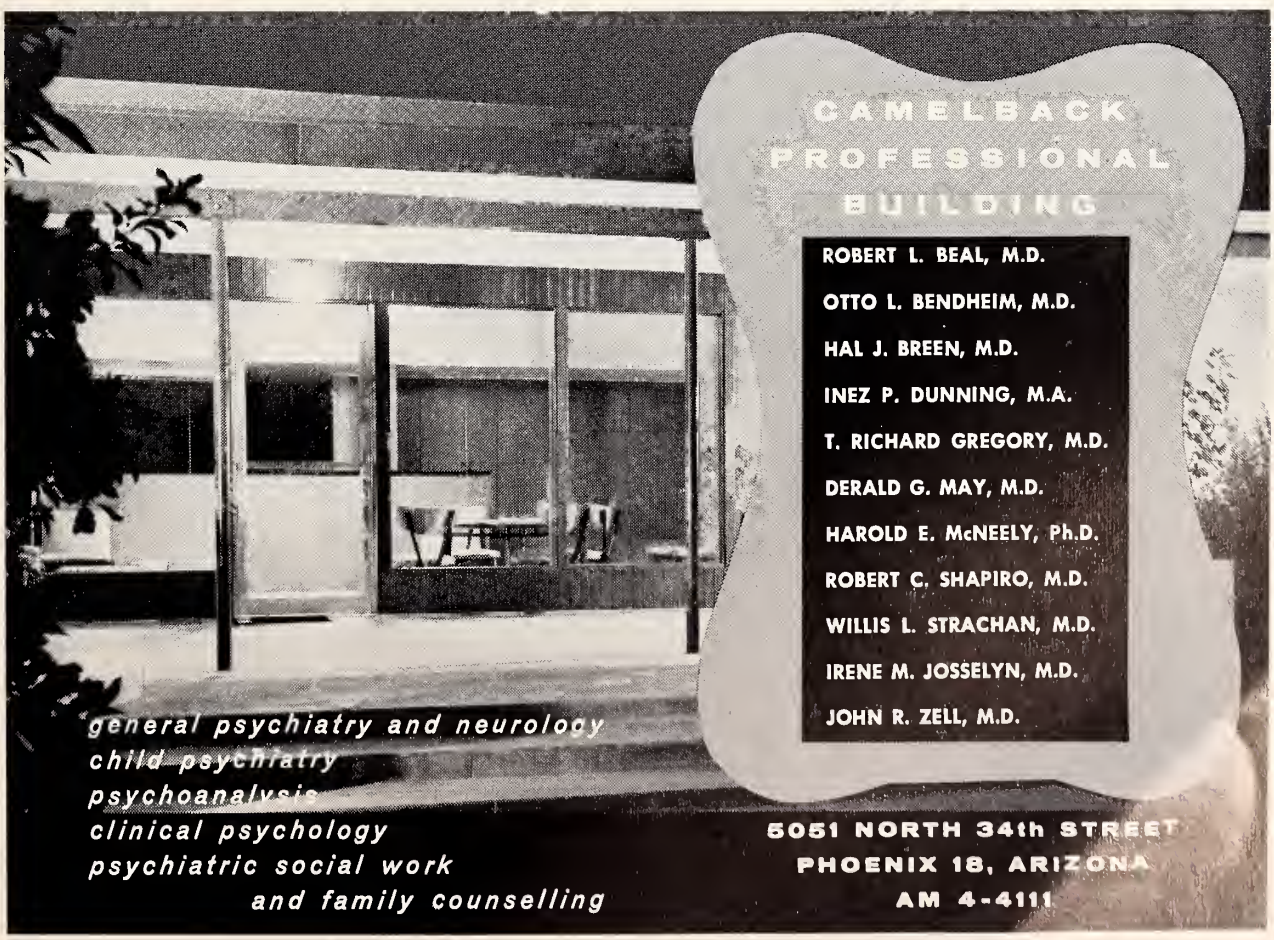
A poll of our exhibitors revealed their general satisfaction. They stated that our doctors were much more cooperative and friendly than had sometimes been true in the past. These gentlemen deserve our commendation because of their excellent demeanor as was illustrated by one of our out-of-state registrants who stated, "I have never seen exhibitors who were so non-offensive, who did not try to trip you — grab you by the collar or otherwise force one to review their materials — they all acted like friendly gentlemen."

To the individual members of the Scientific Assembly Committee this year, I wish to extend my commendation for their cooperation and guidance. I wish to particularly extend my personal appreciation to Dr. Roland F. Schoen, whose reliability and performance was again of significant excellency. We were again aware of the superb functioning of our executive secretaries and their staff, who so laboriously handled the mechanical problems with their usual professional knowhow.

During the past year, 180 personal communications relative to the Scientific program were issued by me through my office and a like number were processed by the Association's central office. These letters were in addition to the many phone calls and telegrams. As Chairman of the program, I found it a most nerve wracking experience (as illustrated by one speaker cancelling his appearance after the official program had gone to press). It was an educational experience and one which gave me a sense of gratification; however, one which I prefer never to duplicate.

Your Scientific Assembly Committee next year will have as its Chairman, Richard O. Flynn, M.D., Tempe, and Clarence E. Yount, M.D., President-Elect, as Co-Chairman, who will welcome your suggestions and personal desires relative to next year's program.

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Bibliography *(13 clinical studies, 858 patients)*: **1.** Alexander, L. (35 patients): Chematherapy of depression – Use of meprabamate cambined with benactyzine (2-diethylaminaethyl benzilote) hydrochlaride. J.A.M.A. 166:1019, March 1, 1958. **2.** Bateman, J. C. and Corlton, H. N. (50 potients): Meprabamate ond benactyzine hydrochloride (Depral) as adjunctive therapy far patients with advanced cancer. Antibiotic Med. & Clin. Therapy 6:648, Nav. 1959. **3.** Beermon, H. M. (44 patients): The treatment af depression with meprabamate and benactyzine hydrochloride. Western Med. 1:10, March 1960. **4.** Bell, J. L., Tauber, H., Santy, A. and Pulita, F. (77 patients): Treatment of depressive states in affice practice. Dis. Nerv. System 20:263, June 1959. **5.** Breitner, C. (31 patients): On mental depressians. Dis. Nerv. System 20:142, (Section Two), May 1959. **6.** Gardan, P. E. (50 patients): Deprol in the treotment af depressian. Dis. Nerv. System 21:215, April 1960. **7.** Landman, M. E. (50 patients): Clinical trial af a new antidepressive agent. J. M. Soc. New Jersey. In press, 1960. **8.** McClure, C. W., Papas, P. N., Speare, G. S., Palmer, E., Slattery, J. J., Konefal, S. H., Henken, B. S., Wood, C. A. and Ceresia, G. B. (128 patients): Treatment of depression – New technics and therapy. Am. Pract. & Digest Treat. 10:1525, Sept. 1959. **9.** Penningtan, V. M. (135 patients): Meprabamote-benactyzine (Depral) in the treatment af chronic brain syndrame, schizophrenia and senility. J. Am. Geriatrics Soc. 7:656, Aug. 1959. **10.** Rickels, K. and Ewing, J. H. (35 patients): Depral in depressive conditians. Dis. Nerv. System 20:364, (Section One), Aug. 1959. **11.** Ruchwarger, A. (87 patients): Use of Deprol (meprabamate combined with benactyzine hydrochloride) in the affice treatment of depressian. M. Ann. District of Columbia 28:438, Aug. 1959. **12.** Settel, E. (52 patients): Treatment af depressian in the elderly with a meprabamate-benactyzine hydrachlaride cambination. Antibiatic Med. & Clin. Therapy 7:28, Jan. 1960. **13.** Splitter, S. R. (84 patients): Treatment of the anxious patient in general practice. J. Clin. & Exper. Psychopath. In press, April-June 1960.

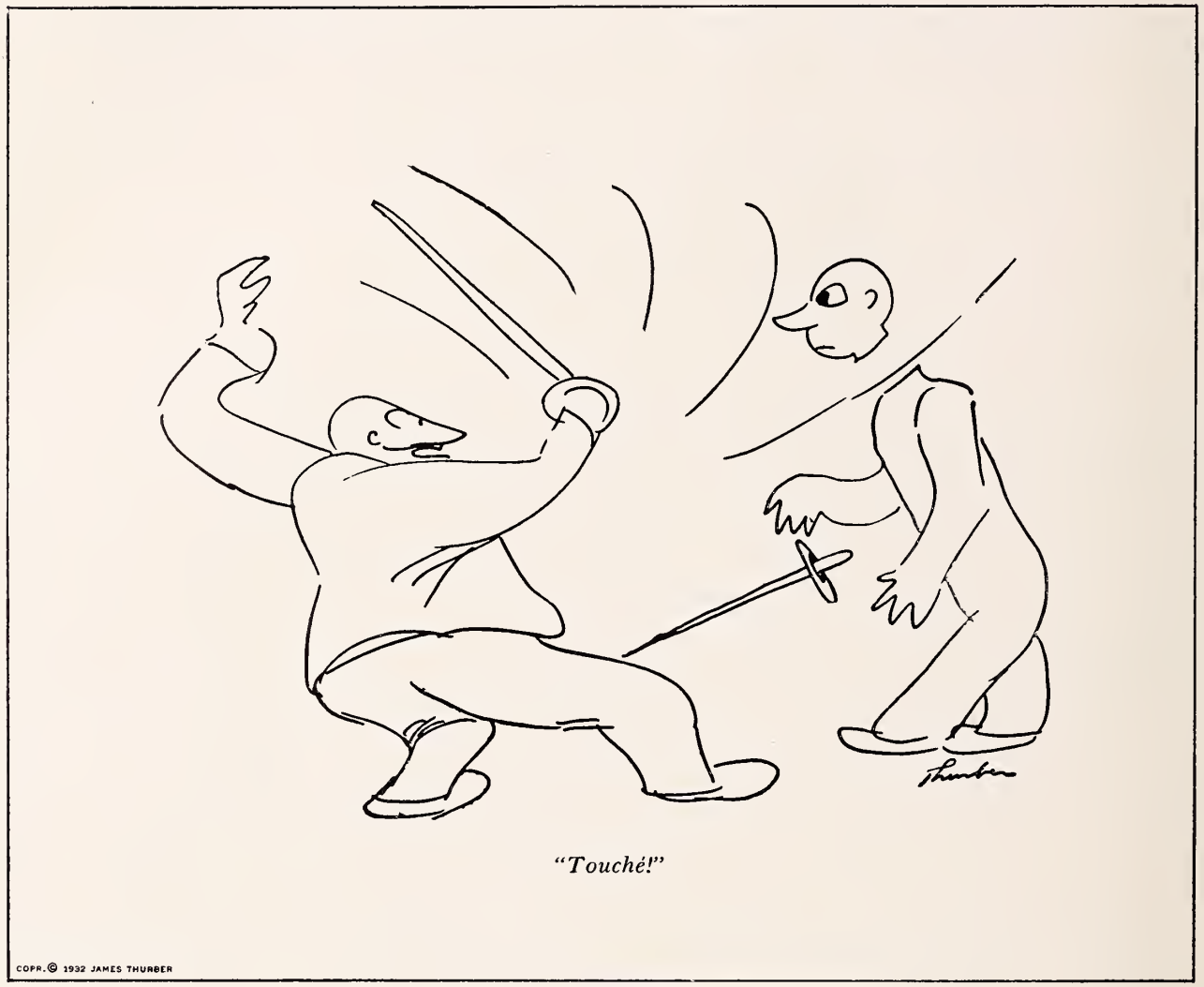
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Editorials

1961 Legislation Concerning Eye Care

The state legislature in Pennsylvania has just introduced House bill No. 1205 to the benefit of the Opticians of that state to broaden the definition of Optometry. This bill suggests the elimination of prohibition against Optometrists using drugs and extends their scope of care to include "diagnosis of the human eye." The Act would permit Optometrists to apply "any and all preventive and corrective methods other than surgery for the aid, correction, and relief of the human eye, its associated structures, appendages and functions."

The National Medical Foundation for Eye Care is aware of the moves by Optometrists in some parts of the nation to extend their eye care, and in some instances to eliminate and prevent by legislation physicians from doing refractions. Similar bills have been introduced in

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accept for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

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other states over the country, but this is one of the most extreme statutes proposed in 1961, and its consequences if enacted in Pennsylvania can readily be foreseen in other states.

A. K. Hansen, M.D.

WHAT "MEDICAL AUTHORITIES" SAY ABOUT DROPS

A special report from the National Medical Foundation for Eye Care deals with the recent distribution of pamphlets by Optometrists on the subject of the use of drops in the examination of eyes. The pamphlet quotes six persons all supposedly "medical authorities" who in general are against the use of mydriatics or cycloplegics for eye examination. All doctors are supposedly M.D.'s and many associated with universities with very impressive titles behind their names. The foundation gathered information about these certain medical authorities from its investigations, and found that none of the six were associated with any university nor had one been a professor of Ophthalmology. One of the doctors had been in the Federal Penitentiary. A A textbook supposedly written by one could not be found or identified. All but one of the "doctors" is dead.

It was interesting to note that the instructions, which accompanied the pamphlets suggested that the pamphlets not be used indiscriminately, but only given to patients who inquire about drops; and that they should not dwell on the doctors since all are deceased except one.

This publication is another evidence of the effort being made by some Optometrists over the country to discredit cycloplegics in the examination of eyes. It is aimed at Ophthalmologists who as a general rule routinely use a cycloplegic or a mydriatic in the examination of the eyes. An accurate evaluation of the refractive error in some myopic individuals can be obtained without the use of cyclopegics, but in most instances when a patient is being refracted for the first time, a cycloplegic offers the most accurate evaluation of that patient's refractive error as well as affording a widely dilated pupil through which the examination of the ocular media and fundus can be facilitated.

A. K. Hansen, M.D.

EDITOR'S NOTES

If and when a medical school is established in Arizona, there is no question that all of us want a good medical school. At present Arizona is very low among the land grant colleges in the payment to its faculty. To date there is little dissension or discussion that the University of Arizona has established the best academic standards in the State. The final fact remains that ward patients are extremely important and significant in good post-graduate training.

All of these must be woven together in the final decision by the Board of Regents and the State Legislature to obtain the best, not to establish what is just adequate.

Thirty per cent of surgical procedures performed today are preventative rather than curative or palliative in nature. There are four major types:

1. Removal of gastric ulcers if they do not respond within three weeks to medical management; 10% of these lesions become malignant.
2. Removal of polyps of the colon, for 6% are malignant at the time of removal and 24% will necessitate later removal because of cancer.
3. Removal of the gallbladder with stones, for there is proving to be an increasing frequency of association of stones and cancer.
4. Removal of thyroid nodules because of the frequency with which the lesions become malignant.

Dr. Jonathan E. Rhodes
Chairman, Department of Surgery
University of Pennsylvania

There are recent studies that make one question the necessity for this theoretically preventative surgery. Removal of gastric ulcers is indicated. There is a definite question that polyps of the colon are pre-malignant lesions. The frequency of association of gallstones and cancer is limited. Work at the M. D. Anderson Hospital does not bear out our thought that cancer of the thyroid arises in a previously existing adenoma of the thyroid. However, until better methods of detection and more confirmatory proof exists we must agree with Dr. Rhodes' recommendation; only when these lesions are under the miscroscope do we know which gastric lesion is malignant, which colon ployp is a cancer, or which thyroid nodule is the malignant one.

Dr. Oscar T. Clagett, of the Mayo Clinic, has shown that patients with "silent gallstones" who do not have them removed as an elective procedure, 50% will eventually develop symptoms and difficulty beyond the magnitude that should be encountered for simple cholelithiasis. One may question the frequency of association of cancer and gallstones; one can hardly refute the prophylactic effectiveness of cholecystectomy for the silent stone.

It is extremely difficult to make people aware of things of the future and more difficult to get them to do something about it unless there is an immediate association with the person.

Population control by the means of eugenics is not for us in our generation. For us to tell future men what they are to be like is inconceivable. That choice must be made in that future date in the world, changed as it will be at that time. Our efforts must be limited to leaving them a world that is tolerable.

Sir Charles Snow

We do not have the facts to arrive at solid opinions. "What do human beings want to do with their lives?"

René J. Dubos

Birth control is now an official function of the government of India. They have 1,000 clinics today, plan to have 8,000 in five years.

Chagla

The population explosion is second in importance to the hydrogen bomb. We need to bring the birth rate to balance with the death rate. Social unrest will develop as a result of overpopulation.

Aldous Huxley

Three cases of rupture on the lesser curvature near the gastro-esophageal junction in normal stomachs are reported after the therapeutic administration of oxygen.

New England Journal of Medicine
June 8, 1961, Vol. 264, No. 23

Would it not be a catastrophe to discover the cause of old age and so indefinitely postpone death.

We are not emotionally prepared to discuss problems remote in time and yet existing today. It is difficult to enlist interest in any of these questions.

The saving of children with hereditary defects in many cases may magnify the medical problems of future generations.

The physician must act according to the ethics of the society to which he belongs. Consequently, many of the moral and social issues as they relate to medicine must, or probably most correctly should be solved by society as a whole and not by the medical profession alone.

In recent years and decades we have been eliminating the adaptive potential of the individual, possibly to the detriment of the race.

The cost of disease control will not decrease with years. New disease, under new situations, will present new problems that are just as costly as the problems that are with us today.

Rapid changes in the fields of technology, make that the development of genes can no longer keep up a rate of adaptation equal to the rate of alteration of our environment.

By 1970, 75% of the people of the United States will be huddled on 10% of its land mass.

Frequently, medical evidence is such that it would cause us to act now, even though the evidence is inadequate from the legal point of view.

Warfare is the greatest potential disease of mankind.

Technological cynicism is greatest in the more advanced society.

Fall-out from nuclear deaths to date has reached a point as to cause more than 100,000 genetic deaths.

One cannot face truth without sacrificing some other value.

LETTERS TO THE EDITOR

June 17, 1961

Dear Editor:

Dr. Carl A. Holmes' article printed in the July 1961 issue on WHY (relating to an amendment to the Benevolent and Loan Fund) is five pages of contradictions and inconclusive thoughts.

Dr. Holmes states his proposed fund will give us all peace of mind for our retirement as well as for our wife and children if some catastrophic condition should occur. He is very specific about the amount we are to invest, but states that there is no guarantee that we will get anything except consideration from a committee. He also states that in case the plan is abandoned in the future — your peace of mind is gone — that no doctor may recover any of the principal.

He further states that if a young doctor cannot get $1,000 together to give to the fund, he had better leave Arizona. He then turns around to say that almost every year a doctor dies in this state who has been starving for years. Where does the starving doctor get the $1,000 to start payment into the fund?

The medical profession has turned down Social Security and has been overwhelming for a voluntary plan for retirement and yet Dr. Holmes would start us on a compulsory plan at the state level.

He states that Social Security is virtually bankrupt and that the $200 a month would be slow starvation. Whether you are for Social Security or not has no bearing on this because his plan doesn't guarantee one red cent.

The fund as set up, he admits, wouldn't provide enough income for 20 years or more; yet the older doctor is compelled to support a retirement program that promises him absolutely nothing.

Dr. Holmes states in one paragraph that his own feeling is that the plan after 5 years could guarantee $5,000 or more a year annual income, however, this is provided one passes a means test and has received his consideration from a committee and providing no deaths occur during the next 20 years.

He further elaborates on the fact that after one's first payment one is eligible for disability payments provided he's been in the Association for 10 years, requirement of a minimum age, a doctor's certificate of health, a definite waiting period when above a certain age and that when the involuntarily retired are taken care of — if there is any income left — each voluntarily retired doctor would get an equal share of the remainder. So after you have passed through the red tape you might get an equal share of something or nothing.

The only noncontradictory statement and the one I think befits this amendment is when Dr. Holmes says and I quote "After taking a few whiffs on my favorite opium pipe, I began to think big!" What a waste of the Poppy.

Sincerely yours,
William R. Sheppard, M.D.

———

July 3, 1961

Dear Darwin:

There is an article in the *New England Journal of Medicine* dated June 22, 1961, marked "To Be Heeded." This article draws attention to the phototoxicity of demethylchlortetracycline (Declomycin).

It would seem that in sunny Arizona this warning might be well heeded.

Most sincerely yours,
Edwin A. Busse, M.D.

Editor's Note — Article follows:

WARNING TO BE HEEDED

Over a year ago reports of a much exaggerated sunburn reaction in some patients under treatment with demethylchlortetracycline(1-3) became available. Although the authors of the first reports attributed the reactions to photosensitivity(1-2) those described should more appropriately be considered as cases of phototoxicity,(4) since they occur only on exposed surfaces, after systemic treatment, do not recur except under similar conditions and show no cross-sensitivity with other, related drugs. In the cases reported, they occurred after the patients had been under treatment for four days or longer and with at least the usually recommended adult dosage of 600 mg. daily, and involved only areas of skin exposed directly to strong sunlight. A warning concerning this reaction was published

simultaneously with the first case reports,(5) and a similar warning has subsequently been included among the precautions accompanying advertising material and package inserts of this drug.

Elsewhere in this issue of the *Journal* there appears a case report of a physician who, inadvertently it seems, failed to heed this warning and, as a result, suffered a reaction that could easily have been avoided. The reaction requires direct exposure to ultraviolet rays in the range that is encountered in the north temperate regions only during the summer, late spring and early fall, and may occur even in patients whose skin is already tanned from recent exposures to the sun. Patients (including physicians) who may be exposed to direct sunlight and in whom treatment with a tetracycline antibiotic must be continued in full doses for more than three days should therefore be given one of the analogues other than demethylchlortetracycline. At the same time physicians should beware of other phototoxic drugs, including chlorothiazides, certain tranquilizers and sulfonamides.

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Chicago, Illinois
July 2, 1961

Dear Sir:

Thank you very much for the copy of ARIZONA MEDICINE which you sent me. From the training I received in the Army the article on gas and germ warfare (May 1961) is one of the finest printed. We really need to wake up in this country.

In His service,
Lowell Perkins
3417 W. Parker Ave.
Chicago 47, Illinois

THE HOUSE OF HEALING

Thre House of Healing by Mary Risley — A fascinating development of medical progress in hospitals. From the father of medicine, Imhotep, with a consideration of Rome's contribution of the military hospital, the brotherhood of man in care of the youth and aged through the expression of nursing and hospital care with the Knights Templar up to the time "when man's right to shelter and healing was recognized." This is an excellent review with an understanding of the economic, sociological and psychological factors that have influenced the care of the sick and aged for the last 5,000 years.

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1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
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digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. In Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
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In Memoriam

Bernard E. Gorton, M.D.

1926 - 1961

The sudden death, due to Asthma, of Dr. Bernard Gorton, at age 34, on April 26, 1961, who had recently begun practice in Phoenix, not only tragically bereaves his wife, Mary, and four sons, Gary, Gregg, Christopher and Joel, but deprives his colleagues of an able and respected psychiatrist.



Bernard E. Gorton, M.D.

A member of the American Psychiatric Association, Dr. Gorton had graduated from the State University of New York College of Medicine in 1951. He had post-graduate training at Evangelical Deaconess Hospital in Detroit, New York Psychiatric Institute, and Syracuse Psychiatric Hospital.

Prior to coming to Phoenix, he had practiced in Philadelphia and was associated with the University of Pennsylvania Psychiatric Hospital.

During the brief period since his arrival in Phoenix in July, 1960, he demonstrated his worth and promise clearly. He was a member of the staffs of Good Samaritan, Mesa Southside, John C. Lincoln and Camelback Hospitals. At Good Samaritan Hospital, he rendered able service to the Department of Electroencephalography. He was Acting Director of the Maricopa County Child Guidance Clinic and Jane Wayland Child Center. He established a psychiatric "out-post" practice in Yuma. Many of those who briefly knew him will miss his modest succintness, his courageous and outspoken adherence to high principles, and objectively founded opinions.

He is survived by his mother, Mrs. Hilda Gorton, his sister, Madeline Lendt, both of New York. His wife, Mary Gorton, and four sons remain in Tempe, where Mrs. Gorton is now establishing a Medical Secretarial Service.

R. E. Duisberg, M.D.

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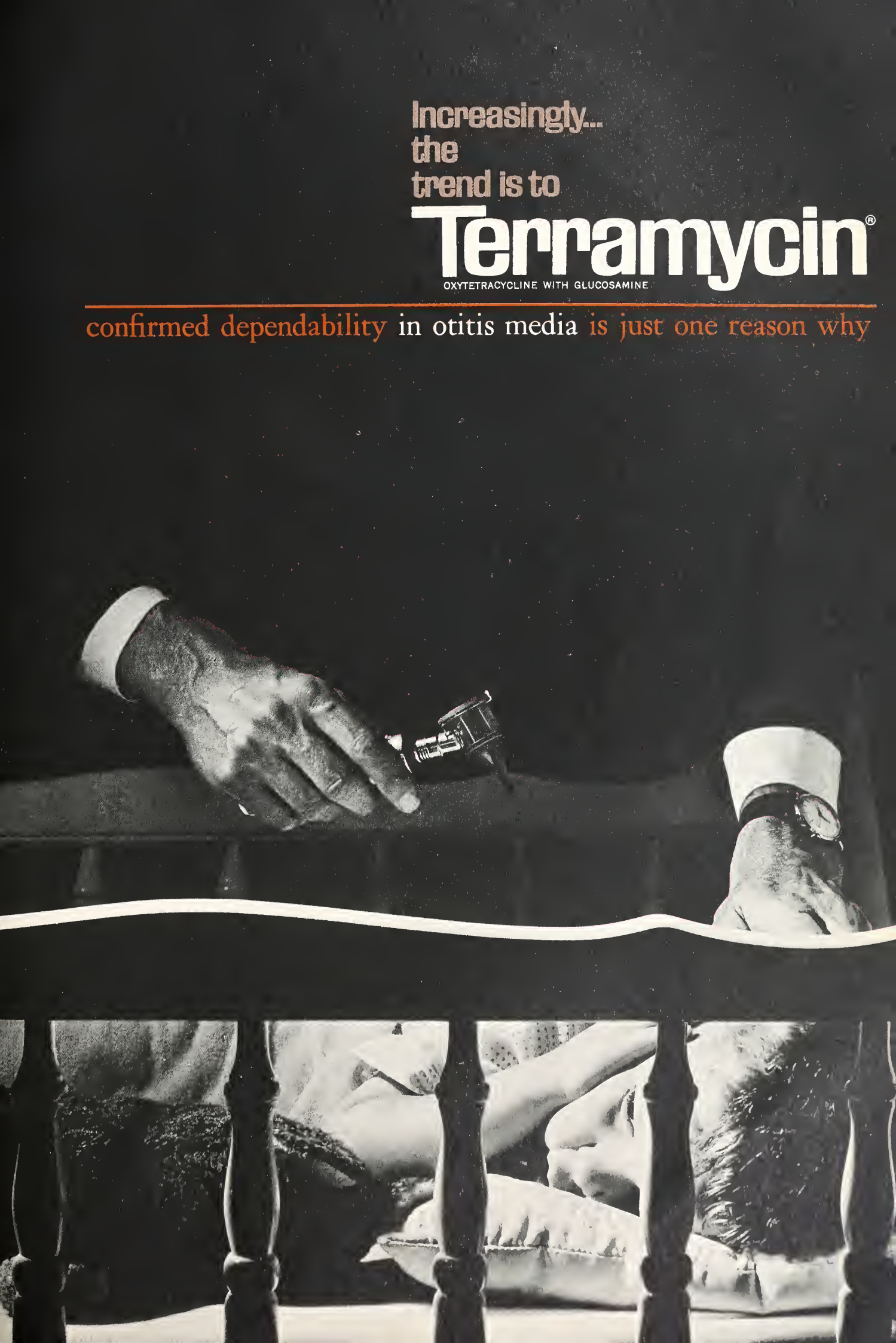
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confirmed dependability in otitis media is just one reason why



*New evidence** demonstrates the effectiveness of Terramycin in *otitis media* . . . another reason for the trend to Terramycin.

In a series of 41 cases of otitis media, Terramycin not only "was often successful where other antibiotics had failed," but also showed that "it is extremely well tolerated"; oral dosage for infants was 250 to 375 mg. daily, for children, 500 mg. to 1 Gm. In many instances, oral therapy was preceded by intramuscular injection of Terramycin.

The authors concluded that "there is good reason to consider it [Terramycin] one of the most effective agents for treatment of infection of the upper respiratory tract."

These findings confirm the continuing vitality and broad-spectrum dependability of Terramycin, as reported through more than a decade of extensive clinical use.



In brief

The dependability of Terramycin in daily practice is based on its broad range of antimicrobial effectiveness, excellent toleration, and low order of toxicity. As with other broad-spectrum antibiotics, overgrowth of nonsusceptible organisms may develop. If this occurs, discontinue the medication and institute appropriate specific therapy as indicated by susceptibility testing. Glossitis and allergic reactions are rare. Aluminum hydroxide gel may decrease antibiotic absorption and is contraindicated.

More detailed professional information available on request.

another reason why the trend is to Terramycin—*versatility of dosage form:*

TERRAMYCIN Capsules—
250 mg. and 125 mg. per capsule—for convenient initial or maintenance therapy in adults and older children

TERRAMYCIN Intramuscular Solution—
50 mg./cc. in 10 cc. vials; 100 mg. and 250 mg. in 2 cc. ampules—preconstituted, ready to use where intramuscular therapy is indicated

Terramycin®

OXYTETRACYCLINE WITH GLUCOSAMINE

SYRUP PEDIATRIC DROPS

125 mg. per tsp. and 5 mg. per drop (100 mg./cc.), respectively

deliciously fruit-flavored aqueous dosage forms—conveniently preconstituted

Science for the world's well-being® Pfizer

PFIZER LABORATORIES Division, Chas. Pfizer & Co., Inc.
New York 17, N. Y.

*Jacques, A. A., and Fuchs, V. H.: J. Louisiana M. Soc. 113:200, May, 1961.

Pfizer *Science for the world's well-being®*

Dear Doctor:

Reports from our representatives indicate that many physicians would appreciate simplification for prescription-writing purposes of the names of Terramycin products in both the "plain" and the "Cosa" dosage forms.

The "Cosa" forms originated, you may recall, on the basis of clinical evidence of enhanced antibiotic absorption when glucosamine is employed in oral administration. To permit each physician individually to study this evidence and choose which form he would prefer to prescribe, we offered Terramycin in both forms—that is, in the regular Terramycin forms without glucosamine, and in the "Cosa" forms with glucosamine.

This distinction appears to be no longer necessary since glucosamine, a highly acceptable excipient for oral antibiotics, now is being incorporated uniformly in all such forms, thereby simplifying nomenclature and your prescription writing.

Accordingly, and effective immediately, forms incorporating glucosamine will be offered simply as Terramycin without the "Cosa" prefix.

To make clear just which forms are affected, please refer to the brief tabulation (below) of Terramycin dosage forms both *before* and *after* this change. We are also requesting our representative to call on you at an early date to answer any questions that may arise.

We feel certain that this action, prompted by your comments and those of many other physicians, will simplify your writing of prescriptions for Terramycin products.

We welcome your comments on this action and on any other phase of our operations, since it is our objective to render every service as efficiently as possible to our friends in the medical profession.

Sincerely,
PFIZER LABORATORIES

The following table indicates the former name and the current name of Terramycin systemic preparations:

FORMERLY NAMED	NOW NAMED
Cosa-Terramycin® Capsules	**Terramycin**® Capsules*
Cosa-Terrabon® Oral Suspension	**Terramycin** Syrup
Cosa-Terrabon Pediatric Drops	**Terramycin** Pediatric Drops

and simpler names for these Terramycin-containing formulations:

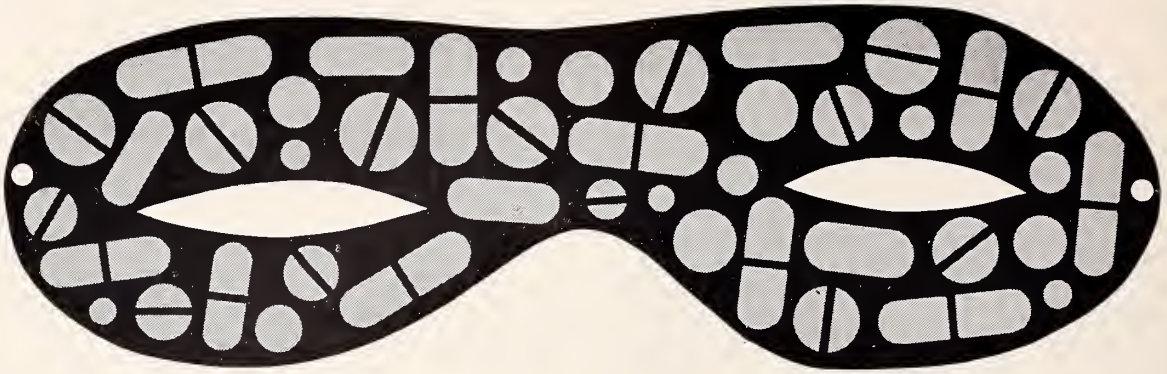
Cosa-Terrastatin® Capsules	**Terrastatin**® Capsules
Cosa-Terrastatin for Oral Suspension	**Terrastatin** for Oral Suspension
Cosa-Terracydin® Capsules	**Terracydin**® Capsules

. . . and these names remain unchanged:

Terramycin Intramuscular Solution
Terramycin Intravenous

**Terramycin Capsules* without glucosamine *are no longer available.*

The clinical versatility of Terramycin is enhanced by its specialized dosage forms adapted to individual needs—*another reason for the trend to Terramycin.*



drugs anonymous

One of the several hastily conceived and potentially dangerous suggestions for reducing drug costs is generic-name prescribing. The proponents of generic-name prescribing claim that it will lower drug costs significantly and—through supervision by the Federal Government—provide quality equivalent to that of trademarked drugs. We maintain that these claims are false. Here are some authoritative answers to the principal questions posed by generic-name prescribing.

How much money would be saved if all prescriptions were written for generic-name drugs?

"The [Rhode Island] Division of Public Assistance examined 10,000 drug prescriptions for welfare recipients for the purpose of determining the actual savings . . . of generic versus trade-name drugs. The drugs had cost $28,000. Substituting generic drugs whenever possible would have provided a saving of less than 5 per cent. Syracuse has made a similar study of drug costs with comparable results."

Rhode Island Medical Journal,
January, 1961

Are the savings worth the risk of sacrificing quality?

". . . it is unsafe [to prescribe generically] because there is not sufficient policing of our standards. . . ."

Lloyd C. Miller, Ph. D.
Director of Revision of the U.S.P.

"The naive belief that, if a product was not good, the FDA would prohibit its sale is just not realistic. . . . it is completely impossible for the FDA to check every batch of every product of every manufacturer. . . . Hence the integrity and reputation of the manufacturer assume unusual significance where drugs and health products are concerned."

Albert H. Holland, M.D.
formerly Medical Director of the
Food and Drug Administration

Smith Kline & French Laboratories, Philadelphia SK&F

Topics of Current Medical Interest

Is the Effort Worth It?

Thank you very much, President Don Conzett, of Colorado — of Iowa. You have talked so much about these Coloradians that I am a little bit allergic to being from Missouri, and especially from those Ozark Hills, but I am glad to be here.

Honored Guests: It is good to see you all. President-Elect from Colorado, Dr. Kenneth Sawyer, Fellow Delegates and all of you saved saints who keep coming back to hear my story again and again: I am proud to be before the Conference of Presidents and Secretaries because I understand that is the largest single audience that we can get in a meeting of the American Medical Association and certainly the most valued, the most dedicated and those to whom we should get the message best.

I am not from Colorado, as our distinguished President said, and I am smart enough to know that lesser birds cease to twitter when the lark sings on high, as any of you who know that Lord Lister made that comment when asked to remark on Jenner's speech on smallpox years and years ago, and had I known that my senior colleague from Minnesota, the Honorable Dr. Walter Judd, was going to be on this program, this lesser bird wouldn't have chosen to twitter.

But I suppose that our message is appropriate for this Lord's Day because it is evangelical and we want to spread the gospel and get it out to the grass roots and therefore, "it *is* worth it," and I am happy to be here.

You know, there is a saying going around Washington now that the children in the foreign legations, especially of Central and South America, are confused as to whether to speak Spanish, American, or be true beatniks and they always use the word Casablanca for the White House in Washington until recently. After the Castro fiasco they now call it Casabubu.

Now, I want to get started off right as an admitted wet-behind-the-ears freshman Congressman and I don't want to presume to criticize, in fact I would like for this to be a nonpartisan talk, simply calling a spade a spade, and right down to earth and I don't want to be prejudiced. I want to be like a book in my grandpaw's library that says, "An Accurate Recounting of the War Between the States from a Confederate Point of View." But I think that since it is worth it, that you would be interested in the fact that there has been a sudden change and as a preamble to my talk I ask you to reflect upon the fact that I helped Dr. Gus Buie and some of the rest of the delegates of this house, years ago, to perfect the principle of medical ethics and I was a leader, in addition to being president of my own Society, in the heights of ethicality within our profession and far be it from me to have a card with my telephone number or, yes, even my address on it — and then imagine diving down the highway in a campaign car with a big sign on the top of it and meeting a 24-foot billboard that has your ugly picture on it and says:

Vote for Durward Hall.

He is the height of integrity, ability and leadership.

And here is his telephone number.

It takes some rather sudden changing within

Address presented at The Conference of Presidents and Other Officers of State Medical Associations, Seventeeth Annual Meeting, Statler-Hilton Hotel, New York, N. Y., June 25, 1961.

as well as without, and then imagine going with me to make a speech at a coon hunt in Barry County, where I was born, down in the Ozark Hills, and getting up on the back nine days after an operation on your knee from an old football injury at Drury College, as you said, and baying against the hounds, to these people, who were restless anyway with the winds and the trees from over yon hills, and then having to jump off this truck-bed, as we call them down there, and tearing your sutures out against your own partner's advice — imagine how much I was in the doghouse. But this is part of the game and it is fun and it is stimulating and we love it.

So we come up to the question of "Is it *worth* it," and what is the citizenship responsibility from a doctor's point of view?" Well, as I see it, it is an awakening, not only to Madison's encroachment, which is now pell mell, as I shall relate, but it is an awakening after a long Rip-van-Winkle-like nap to the basic duties of American individuals, if our carefully nurtured way of living in a republic on a compartive enterprise basis is to survive. "It *is* worth it." I predict that such awakened citizenship responsibility will toll the death knell of twenty-eight years of living in the "silver spoon" era of regimentation, free spending, higher and higher taxes, conscription, hand-outs, deficit financing, and that we will turn back, not to the good old days but away from the welfare state on whose abyss we totter to the sound and conservative and constitutional basic laws of a healthy market place on God-given laws of supply and demand and coupled with progress.

Citizenship responsibility, means participation by all on an informed basis. It was Lord Brougham who said that, "informed people are easy to lead, and difficult to drive; easy to govern, and impossible to enslave!" It means participation in the local grass roots mechanics of government to the end that responsible citizens will send the *right* men to our local, state and national legislatures instead of trying to change their spots after they get there. Such groomed and selected persons who are to represent us properly must be well versed in economic understanding of our country and from what it derives.

In my travels both before and after the election I sense and feel this same ground swell that Mr. Wright talked about. I believe it is popular and that the fields are ripe for harvest and I am of the considered opinion that now *nothing* can stop us.

We *are* responsible Americans, whether we be doctors or peanut vendors, and we can no longer afford to be smug and complacent — yes, prudish, if you please — in the belief that with local consent and a few dollars distributed aimlessly from our *largesse* that we can change the "leopard spots," of those who owe their election to special-interest groups seeking their own selfish ends.

Well then, *why,* may you ask, the need for an awakening of this sense of citizenship responsibility? After having practiced surgery, along with many of you, for over twenty-six years and given up that practice, as was related, and especially having *been elected,* and having bared my chest and campaigned on the fact that I was proud to be a doctor — albiet I wish your support had been a little greater at those critical times when we were paying for television programs, and so forth — and having been a conservative; and *then* observed at first hand for the last six months the way events in Washington are shaping up, and shaping our very lives, I think you will be interested in these observations, remembering that I haven't been there long enough to become *cynical* or *hardened* to what is happening, but have been challenged, excited, and stimulated.

No one can sit in Congress for very long without realizing that we are far from being rid of an experiment in socialism, the welfare state that began under the New Deal, and that there are in fact evil forces working a militant will against the principles set down by our Founding Fathers. I refer to the socialists, or those who weakly disguise their admiration for socialism by referring to themselves as liberals. Organizations such as the Americans for Demoratic Action. They are real, they are not just fancy. Also we no longer have government directly responsible to the people, such as men like Franklin, Jefferson and Madison envisioned when they drafted the framework of our republic. Instead we have a government responsible to organized well-financed pressure groups, each one exerting a powerful influence upon the election of men who decide our national policies and continuing to exert that influence upon whom they elect and appoint. Where were you and yours? "*Is* it worth

it?"

Take, for example, just a few of the major legislative issues before Congress today: the Minimum Wage Bill, the Depressed Areas Bill, the Medical Care for the Aging Bill under Social Security, the Federal Aid to Education Bill. Who does the Congress hear from on these issues? From the people, or from the people who for the most part are simply "parroting," what they are told is *best* for them by the leaders of the particular pressure group to which they are tied? And then, perhaps in self-defense (but a fact), those who *still* believe in constitutional and conservative government have been forced to direct their own professional or trade groups into the field of lobbying, which is an honored and a valuable part of our system; and so it is that our American Medical Association, the Chamber of Commerce, the National Association of Manufacturers and the Farm Bureau and *others*, have turned their attention more and more into the field of national legislation while trying to preserve state rights. After all, the very survival of our way of life is at stake.

"It *was* worth it," but the lesson to be learned is simply this: as long as those who believe in limited and constitutional government, built upon the *dilution* of power (if you please), rely only on their *particular* lobbying group to offset what other pressure groups are doing, they are fighting a losing battle! Even though you may *slow* the tide toward socialism, you will *not* divert it and the reasons can be found in the simple mathematics which are so important in all politics, at least the ability to "tote the vote," both pro and con.

The total sum of the people represented by the left wing pressure groups outnumber — at least are more militantly organized and dedicated and certainly more vociferous — the total represented by those who believe in constitutional government, even though in many cases the people who belong to these groups don't understand the depth or meaning of the issues involved, and there is a vacuum and a void of capable leadership.

You *must* recognize, ladies and gentlemen, that the A.M.A., for example, will never convince the leaders of the UAW and Mr. Ruether that it is right and he is wrong. What you *must* do, therefore, as individual citizens, is to convince *other* individual citizens in these "opposing pressure groups," of the soundness and the validity of the principles for which you stand, the *facts*, not politically generated issues, and *you must* be able to tell the difference.

Never before, in my opinion, was personal contact, people talking to people, more important than in this war of ideas. Members of the UAW do not receive our professional publications. They receive Mr. Ruether's publications! So you cannot reach them through our newspaper, the "AMA News" as *good*, and *basic*, and *right* as we are sure it is.

Is our case then *hopeless* as we attempt to make the general public understand the drastic effect on the quality of medical care which government control of medicine will have? Well, of *course* not! Professional men, doctors, lawyers, merchants and chiefs, regardless of what you may think, are still held in the *highest* esteem by the average citizen.

I'm not very *interested* in all this discussion of posture and image and whether or not the doctor has fallen off of the pedestal. The average auto worker, based on what he is told by Walter Ruether, will distrust the A.M.A., but you can bet your boots that he will still have a high regard for his own doctor individually. If properly informed, he is not easily led astray and *never* driven from this opinion.

He may shy away from the American Banking Association, but he respects the advice and judgment of his banker!

So, recognizing that professional organizations are one of the greatest tools available for becoming informed and effective in learning and keeping abreast of the issues of the day, we must take the next logical step of becoming evangelical *outside* of our own professional circles.

There is a tremendous need in the political parties for the skills and energies and judgment of men like yourself. In the party of your choice, you can influence meetings and rallies and by active participation in campaigns, you can influence the selection and election of good men. There can be no such thing any longer as being too busy. If you say you are too busy for politics it is like the drowning man professing no interest in water.

So what then *is* the challenge of our time? The basic, yet overriding issue is, whether we shall continue along the path of constitutional repre-

sentative government in a republic, as envisioned by our Founding Fathers; *or* whether we will resort to the dictatorship of a questionably benevolent one-party system. *This* is the issue, not just socialized medicine or federal aid to education, or the others.

Now, make no mistake about it, that is exactly the direction in which we are being taken by the "new frontier," and its *host* of central government advocates, including the foreign give-aways (for social and cultural reform), back-door spending raids on the Treasury; higher taxes, less incentive, phony issues for more votes, and welfare-status! Then how, you may ask, with all the protections given us by our Constitution, is it possible for all the collectivists to take our liberties and our freedoms away? Well, let me illustrate *some of the methods* that I have just observed, in addition to the *apathy*, in addition to the *complacency*, in addition to the general disease affecting the people of the United States of "tranquillo-rectum!"

The Founding Fathers envisioned a government based on dilution of power with a built-in system of checks and balances whereby the legislative, judicial and executive branches would act as restraint one upon the other. They believe in the natural law that, "power corrupts, and absolute power corrupts absolutely!"

Through political deception and "packing" over a twenty-eight-year period the radicals have infiltrated the Supreme Court to a degree that it no longer represents a restraint on the actions of *those who* would usurp the power of that document, of the legislative branch, of the sovereign states, or of the individual. The Court which once was the marvel of the world under a long list of distinguished jurists, such as John Marshall and Oliver Wendell Holmes, is now little more than a rubber-stamp for those who would pre-empt all of our existing *state* law for *federal* law.

And the Legislative Branch, our branch of the Government, during this most recent session, approved expansion of our entire Federal Court structure by giving the Administrative Branch a free hand in the appointment of eight-nine new Federal judges sympathetic to its policies and politics. O mores, O tempora, where are our Statesmen?

In just a few short months as a Congressman, I have seen a few of the methods which the collectivists are using in the other arm of restraint of the executive — on the Legislative Branch.

Perhaps you suffer from the delusion that *no threat* exists, at this time to our system of free choice of medical care, the system which, without third parties, has given this nation's people the highest quality of care, the longest life expectancy, and the like of which care exists in no other nation in the world. Well, let me correct here and now that *cozy feeling* that there is *still time*, or that our top people will take care of it. I would like to do this by pointing out that there is a very definite possibility that the Senate will tag on the Administration's Medical Care for the Aging Program as an amendment to one of the Social Security bills already passed by the House.

Senator Humphrey stated this, and he is the only man I think of who always walks to the *left* of the President. Now, this is a bold-faced admission by an Administration spokesman that it intends to subvert a basic principle of the Constitution, that all tax legislation shall originate in the House of Representatives.

Be assured, gentlemen, that this nation is not *out* of the woods on this legislation. We have some people in our own party that may submit legislation in the interests of political expediency — and one of them lives not very far from here. We are *not* out of the woods on this legislation and to feel cozy or to believe this would be to demonstrate an incredible lack of understanding about the determination of the proponents and their procedural cunning; their complete lack of principle, their realization of, and cunning action toward, the chance of (the fluke of), a lifetime. They waited eight years for it!

I have seen countless examples of the Administration shuffling bills by adding "sweeteners" to force the Congress to accept the bad or reject the good. Still another example of reducing the legislative opposition is being accomplished by the simple expedient of withholding needed public works projects until a recalcitrant Congressman "comes around!"

I can think of no better example than what was done just two weeks ago to my good friend and colleague Bruce Alger, of Texas, when the Public Works Committee on a straight party line vote, revoked plans for a needed Federal office building in Dallas; even though the need

for such a building as an economy action had been aproved by every Federal agency since 1954 and even had the one-time support of the then Senator Johnson himself.

All the old-timers on the House floor tell me it is the first time in the history of their memory at least, that they have seen Cabinet members in the speakers' lobbies during sessions calling "deflectors," off the floor one at a time for executive whipping into line. It takes a strong man, not a political expedient, who was just available to fill a *void.*

Still another method of the one-party dictatorship that I fear, and that threatens us; is the practice of stacking the Conference Committee, which must reconcile the differences between the House and Senate on any particular bill. On the Minimum Wage Law the Speaker appointed the same conferees who were on the floor leaders *for* the very legislation that the House *defeated.* After that it is a question of accepting it or rejecting it!

Other examples: You may recall the *propaganda* at the beginning of this session, about how the Rules Committee needed to be *expanded* so the House could "work its will!" What has happened instead is that the House now works its will *only* on those bills which the Administration wants, and even then under *closed* rules-of-procedure which do not permit members an opportunity to vote out the bad portions (or leave in the good portions), of a particular bill. Well, with hindsight being like twenty/twenty vision, there is no longer any question but that this should have been the Administration's first defeat in this Congress and the Speaker forced to *purge* instead of *pack.*

Try to get a back-door spending protective bill out of the Rules Committee now! There were 125 signers of such a petition the other day. We haven't even heard from the petition!

Last Wednesday evening, when the Congress was on special orders the Majority Leader slipped in and without objection packed the Committee of the House on Interior and Insular Affairs. Watch and see what happens to the Burns Creek dam and Whether Hamar Budge comes back to Congress or not.

For the first time the President of the United States has asked the Congress of the United States, ladies and gentlemen, *not* to make laws but to simply give its tacit consent by not taking *any* action *against* administrative recommendations! This is known as the executive order under a 60-day period. We no longer have a "vest pocket veto," to support good legislation. *Instead,* we are now living under the rule of "vest pocket approval," and anyone who has seen the House tied up in knots over the most intricate legislative and parliamentary maneuvering knows that a very few men could prevent the House from taking *any* action, good or bad, on any particular recommendation for at least sixty days.

And then finally I have seen good men, from the other side of the aisle, if you please, vote their convictions, then with tears in their eyes walk up to the well in the fourth time around of any vote, after the measure has been thoroughly beaten, and under pressure by the Administration change their vote from "yea" to "nay." It happened just two weeks ago when the record vote showed sufficient strength to end the wartime excise taxes. The Administration pressured some of its ordinarily right-thinking but weak-gutted Jeffersonians into changing their vote, in "quantity sufficient!"

And I am tired of hearing about a coalition because by definition coalition means something that flows in *all* directions, and you can't have a coalition that just flows one way, the way they want it to!

Well, what I am saying to you is simply this: The dangers are *too grave,* the stakes are now *too high,* the time is *too late* for you, and you to simply practice medicine any more; or simply concern yourselves with legislation affecting the medical care of your patients. You, as doctors and secretaries, as professional men held in high regard in the communities in which you practice, can be powerful supporters of the constitution, of conservative government in our country; but to do this you must be as informed on Federal aid to education, on minimum wage legislation, on depressed areas legislation and on all other legislation as you are on the medical care of the aging under social security. The battle you are fighting in favor of high standards of medical care is not against the *cause* as was so beautifully stated by our guest speaker here today; but the battle you are fighting, if you fight only against medical care of the aged under social security, is against one of the *symptoms.* It isn't basic!

Every one of you were taught to get to the basic cause of disease and not be concerned or led astray by the red herrings of symptoms. The bill to place medical care under Social Security is *spawned*, is *originated*, is *conceived* by the same groups and under the same philosophy that *wants to give* the Federal Government control and responsibility for housing, that *wants to give* the Federal Government control and responsibility for all labor laws, that *wants to give* the Federal Government control and responsibility for every phase of human endeavor from the cradle to the grave. They said so. All you have to do is look and listen and add up the cost.

As one of you who has practiced for many years and who will again, I felt compelled to leave my profession temporarily to enter the battleground on which our whole future and that of our children is at stake. You are not being asked to do this. I don't necessarily recommend it. You are *only* being asked to demonstrate the same sense of citizens' responsibility that seven of our colleagues showed two hundred years ago when they signed the Declaration of Independence, and the six, including the one that you will hear hereafter, that now serve in the House of Representatives as men of medicine. You, more than anyone else, should differentiate the symptom from the cause. The cause demands something *more*, than what you are now giving, to treat *more* than just symptoms. It involves the *total* team and a *total* cure!

What I have tried to say is that the time is long since past, Mr. President, to think that you can save medicine while our other institutions are falling apart, and falling down around us. The time is here when you must become the precinct captain, the man that rings doorbells, like our lovely ladies do so often, on behalf of the political party, the party of your choice, or the candidate that you have helped select; you must be the man who organized committees on their behalf and work with them and be an organizer yourself; or the one who forms groups and simply believes in conservatism and the Constitution of the United States, which I think of as second only to the Bible itself, one of the truly great writings of all time.

If you delay, if you procrastinate, you will one day be reminded of the statement of Dante, that the hottest places in hell are reserved for those who in time of moral crisis, did nothing.

So, get off your largesse. It is worth it to you. It is worth it, to *us*, to the *U.S.A.*, and to the *world*. In fact, I am convinced it is the *Lord's work*.

So I say:
When, if not now?
Where, if not here?
Who, if not you?

Durward G. Hall, M.D.
Congressman from Missouri

PUBLIC HEALTH IN PIMA COUNTY 1960

As demanded by the growth in population, the budget and staff of the Pima County Health Department has increased steadily over the past few years. There were fifty staff members in 1960. The budget for the fiscal year 1959-1960 was $240,610.00.

Some indication of the population growth in 1960 is demonstrated by the Vital Statistics records. A total of 7,093 births were registered in Pima County, while the number of deaths recorded was 2,182.

Deaths among infants of less than one year of age continue to run higher in Pima County than in the U.S. as a whole. However, the infant death rate is lower in Pima County than in the State of Arizona, the figures being 27.6 and 31.2 respectively. (Infant death rate = number of deaths during 1960 under one year of age per 1000 live births). It is felt the high rate of premature births is a factor in keeping the infant death rate high.

Tuberculosis continues to be the most important communicable disease problem. Several new developments in the control campaign have been initiated. A clinic for supervision of children of tuberculosis families is now established at St. Luke's-in-the-Desert. At this clinic, children will be examined regularly to detect early breakdown of their disease. Some children will receive anti-tuberculosis drugs when indicated.

Dr. William Ure has continued to serve as Consultant for Tuberculosis. Under his guidance, efforts are made to diagnose the active cases of the disease among family contacts of tuberculosis cases and to detect signs of activity of the infection among those whose disease had

been previously arrested. 171 newly reported active cases of tuberculosis were shown in Pima County during 1960. This rate is considerably higher than prevails in Arizona as a whole.

One of the most important activities of a Health Department is child care. "Well Child" clinics offer health supervision for well children in the community whose health would not otherwise be supervised. Infants and pre-school children receive physical examination and medical counselling at proper intervals. Immunizations are administered. A total of 3,403 children were admitted to these clinics in 1960. In addition to the usual immunization, Salk-type vaccine for poliomyelitis was made available to the public. A total of 18,689 injections of polio vaccine were administered in clinics and schools during the year.

During 1960, the prenatal clinic admitted 530 women for care. Unfortunately, almost half of these reported to the clinic during the last trimester of pregnancy. This heavy load of antepartal and postpartal care proved to be more than the Health Department could handle, so arrangements were made to transfer part of responsibility for prenatal care of women eligible for welfare aid to the County Hospital.

Only one case of poliomyelitis was reported in Pima County in 1960. In the previous year 28 cases were reported. In the four years, 1957-1960, a total of 77,486 injections of polio vaccine were given under Health Department auspices. No information is available as to the status of immunization of the population. It is probable that there are many individuals still susceptible. Increased efforts to educate people as to the danger of polio are indicated.

The Health Department is responsible for health programs of the County and parochial schools. This includes immunization and nursing service on a consultation basis.

A free clinic for diagnosis and treatment of veneral diseases under the direction of Dr. Bernard Pasternack is open two mornings each week. The number of visits to this clinic has increased rather steadily over the past few years. A considerable increase in infectious syphilis is apparent.

Those familiar with public health agencies regard the services provided by public health nurses as being of high importance, especially for the education of families in good health practices. These services are provided both in the clinics and by visits to the home. During the year, 4,819 visits were made to homes of tuberculosis patients and an additional 3,825 visits were made by nurses to homes in connection with maternal and child care.

Training facilities are provided for practical experience in public health for student nurses from both the St. Mary's and the University of Arizona School of Nursing.

Supervision of environmental sanitation represents another large area of health department activity. This responsibility includes supervision of 1) water supplies, 2) waste disposal, 3) swimming pools, 4) schools, 5) hotels, motels and guest ranches, 6) camps, 7) hospitals and rest homes, 8) food and drink establishments, and 9) dairies and milk processing plants. The sanitation division is also involved in rodent and insect control.

One sanitarian is assigned to each of the seven districts comprising Pima County and is responsible for all phases of sanitation within his area. Three sanitarians are specialists . . . one assigned to inspection of hospitals, nursing and rest homes and nursing schools, a second to the milk control program, and a third to any special or unusual problems that arise in the County.

Hugh H. Smith, M.D., M.P.H.

RELATIONSHIP BETWEEN DOCTORS OF MEDICINE AND DOCTORS OF OSTEOPATHY

Statement of A.M.A. policy adopted by its House of Delegates in annual meeting held in New York City in June 1961, referable to the relationship between Doctors of Medicine and Doctors of Osteopathy:

1. There can never be an ethical relationship between a doctor of medicine and a cultist, that is, one who does not practice a system of healing founded on a scientific basis.

2. There can never be a majority party and a minority party in any science. There cannot be two distinct sciences of medicine or two different, yet equally valid systems of medical practice.

3. Recognition should be given to the transition presently occurring in osteopathy, which

is evidence of an attempt by a significant number of those practicing osteopathic medicine to give their patients scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

4. It is appropriate for the American Medical Association to *reappraise its application of policy* regarding relationships with doctors of osteopathy, in view of the transition of osteopathy into osteopathic medicine, in view of the fact that the colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature and the reliance of osteopaths on and use of medical literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

5. Policy should now be applied individually at state level according to the facts as they exist. Heretofore, this policy has been applied collectively at national level. The test now should be: Does the individual doctor of osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical Association, voluntary professional relationships with him should not be deemed unethical.

The Reference Committee on Amendments to Constitution and By-Laws further stated: There are several methods to evaluate the professional, ethical, and scientific competence of practitioners of medicine. The constituent medical associations shall use the same criteria to evaluate the professional, ethical, and scientific competence of those practicing osteopathic medicine. It might be helpful in addition, to evaluate the professional and scientific competence of a doctor of osteopathy according to his professional education and the type of examination given and the license granted to him by the state in which he practices. It might be possible to establish these standards through the development of state liaison committees of doctors of medicine and doctors of osteopathy. In some states it might be possible to initiate and complete negotiations for the elevation of osteopathic schools to educational equivalence of medical schools according to the standards of the Council on Medical Education and Hospitals.

The report was adopted.

Lindsay E. Beaton, M.D.
Jesse D. Hamer, M.D.
Delegates to A.M.A.

Editor's Note — Please note that this differs with previous action by the Board of Directors of ARMA, but does not preclude a reconciliation of the two views.

D.W.N.

PRESCRIPTION FOR PATIENT RELATIONS — PUBLIC RELATIONS

This might well be called "Case History 3785." It happened to a friend of mine and everything related is accurate and true to the point.

At 3:20 he walked into the doctor's waiting room, and immediately he knew it was going to be a waiting room because there were thirteen other people ahead of him. After eighteen minutes of squirming and studying the facial expressions of the other people, an attractive, brunette nurse ushered him into what he referred to as the inner sanctum. Here he had his weight checked and his height measured by the same brunette.

Then he was allowed to go into still another office where, fortunately, there was a current issue of Esquire. Thirty-five minutes later, or at 3:55 he was finally able to see the doctor with whom he had his appointment.

The examination took some ten minutes of actual time, but it has taken a number of months for this friend to get over having to wait thirty-five minutes for his appointment. As he put it, this was valuable time to him which he could never actually reclaim as he is a salesman and time is the essence of his success. He resented this wait and what he considered a lack of consideration and courtesy on the part of the doctor involved.

I have heard him tell this story many times to many people. All of this heads up to my point of whether you, as a doctor, have good, bad or indifferent public relations. End of "Case History 3785."

It is a good idea in the medical profession to take a thermometer reading of your public

relations, much the way you recommend that your patients have a periodic physical checkup. This procedure is every bit as essential in the practice of medicine as it is in the management of a successful business enterprise.

You, as a doctor, can rest assured that you have public relations whether you intended to or not. We all have in one form or another, varying from those which are distressingly poor to those which are exemplary and fine, with as many intermittent readings as there are variances in the cholesterol count of a dozen patients.

Actually, what the public thinks of you and your operation, (and that one has a two-pronged meaning) represents essentially your true public relations coloration. If your patients think favorably of you, then obviously you are public relating in a positive manner. If, conversely, they think badly of you, they can get the men's locker room at the country club into quite a stir in a matter of minutes.

In reality, you did not put it to him at all on his recent bill, but what you did do was to fail in not properly and clearly communicating with him, patiently explaining the whys and wherefores of his bill, so he would understand what was involved as far as your time and your skill were concerned. Most often, this is the crux of any such problem. A doctor's inability, often excused because of the lack of time in explaining his charges to the patient, can bring about this communications breakdown.

Following are some simple and rudimentary rules which should permit you to get through to practically any patient, so that he will be with you when it comes to those locker room discussions, instead of vehemently raising his voice against you. Never lose sight of the fact that you need this fellow, and all like him, in your fold more and more as each day goes by.

1. First, it should be important and valuable to you to know what your patient thinks of you, both as a person and as a doctor, and just why he thinks the way he does. To extract such information may demand extreme diplomacy on your part. It will definitely take some of your time and it will require subtle questioning on your part, but if your questions are well planned and correlated, then you will receive the answers necessary in putting all the pieces together so that you will be able to come up with the needed and conclusive answers. If it turns out that your patient is reluctant to discuss such matters in this manner with you personally, then furnish him one of your letterheads with a self-addressed envelope to you, and ask him to write out his feelings relative to the medical profession, its practices and you as his doctor. This can be sent back to you unsigned, although preferably it should be signed, so that you can discuss these matters with him at a more opportune time later.

2. There is absolutely no logical reason why your patient can't be your friend and confidante; in fact, it is most important that he be. This responsibility rests predominantly with you. You must relax with him in your conversation, avoiding, to him, meaningless medical terminology. You need to talk his language and, whenever possible, take him into your medical confidence. Remember, it is his ailment regardless of what it is; he is paying the freight for it and whatever it may be could conceivably alter the course of the remainder of his life. It is his blood pressure reading; it is his prescription; it is his x-ray plate, so tell him what there is to tell him frankly and honestly, yet in a gentle and diplomatic way he will understand. He is not a doctor. He may be an architect, or a salesman, or a college professor, but he is not a doctor. The tailor explains the weave, fabric and style of the $200 suit. Granted you are not dealing with a similar commodity, but nonetheless your patient wants and needs to know what his blood pressure really is and what you can do about it, what the pathological examinations reveal, what's in the prescription you scratched out in hicroglyphics and what interpretation you give to the chest x-rays. You will find, in the majority of cases, that this will considerably ease the tension and allay the fears of your patient, and he will tend to hold you in higher esteem because you have leveled with him, and certainly he will be more cooperative in your prscribed treatment of his ailment because of this direct and confidential approach by you.

3. In years gone by, patients have accumulated a considerable amount of seniority while waiting in doctors' offices. We have had the opportunity many times to observe patients waiting their appointment turns. It is not too unusual for a person with a 2 o'clock appointment to eventually get in to see the doctor at 3 o'clock (per case history 3785 previously mentioned).

Granted the doctor is a busy man, but by the same token the patient, too, is a busy person, who may have left his office in the midst of some important transaction so that he would be punctual, and be able to keep his 2 o'clock appointment with his doctor. The obviously poor public relations in this respect need not be discussed in detail. The unfavorable aspects are all too apparent. If your office secretary is booking too many patients for you during the working hours of your day, then it may prove advisable to cut back on these so that you will be better able to adhere to a more rigid timetable. Can you begin to visualize the utter confusion if American Airlines was to ignore its published departure schedules? It would be chaotic.

4. Lastly, this paragraph pertains to the matter of your procedure in billing the patient. First off, you must realize that practically all people resent having to fork over hard-earned cash for medical services, because most of us feel that good health is God-given and inherent, especially in America, just like freedom and fresh air. The point is that all too often the statement is not itemized, with just a flat amount — $200, $300 or whatever it may be — for medical services rendered. Nothing more than that. Sometimes the patient is not even sure what he is paying for, and it certainly makes it difficult for him to brag about his operation if he doesn't know what his operation was. Can you imagine not receiving an itemized bill from Marshall Field, or from your route milkman? Some explanation of the services rendered is in order, as well as being the courteous thing to do.

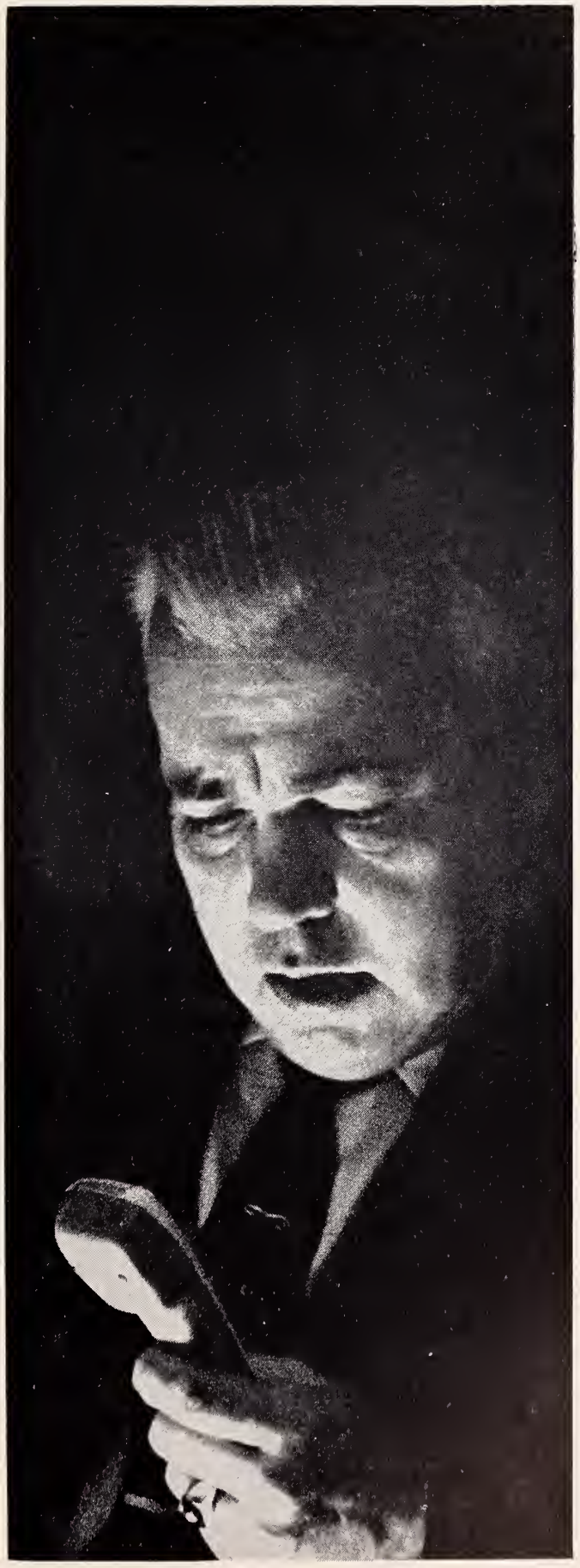
These are only intended as a few basics of sensible public relations. If a doctor were to religiously adhere to these concepts, he would find his relationships excellent, with his patients being far more responsive and interested in his professional affairs and his social well-being. In fact, such a person becomes of incalculable value when it comes to fending off those governmental pressures and pies-in-the-sky like the recent government sponsored legislative measures which too many people are already favoring.

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Good Samaritan
Postgraduate Seminar
on
Obstetrics and Gynecology
Friday, September 22, 1961

Each presentation will be followed by a 15 to 20-minute question and answer period in whieh all panel members will partieipate.

1:00 p.m.	Registration
1:30 p.m.	Funetional Bleeding William E. Crisp, M.D.
2:10 p.m.	Menopausal Bleeding Preston Brown, M.D.
2:50 p.m.	Intermission
3:05 p.m.	Prolonged Labor Phillip Windrow, M.D.
3:45 p.m.	Breeeh Presentation Edward Sattenspiel, M.D.

INFORMATION

Fee for registration is $10 for the complete eourse, payable to the hospital. For physicians wishing to register for only one session, the fee is $5 for the Obstetrical-Gynecological course or $5 for the Pediatric course. No registration fee is required for interns or residents affiliated with any hospital loeated in the state of Arizona.

Good Samaritan
Postgraduate Seminar
on
Pediatrics
Saturday, September 23, 1961

Each presentation will be followed by a 5 to 10-minute question and answer period.

8:00 a.m. (Breakfast)	New Thoughts on Hospital Care of Full-Term and Premature Infants Richard B. Johns, M.D. Herman W. Lipow, M.D.
9:00 a.m.	Diagnosis and Surgical Aspects of Chronic Constipation in Children Daniel Cloud, M.D.
9:25 a.m.	Drug Dosage in Overwhelming Infections and Meningitis in Children Melvin Cohen, M.D.
9:50 a.m.	Office Management of Common Foot Problems in Children James Alway, M.D.
10:15 a.m.	Current Status of Immunization Program for Office Practice William Harper, M.D.
10:45 a.m.	Office Management of Pyelonephritis in Childhood Clyde Kurtz, M.D.
11:15 a.m.	Practical Office and Hospital Management of Diarrhea in Infancy Robert Crawford, M.D.
11:40 a.m.	Practical Management of Common Pediatric Skin Conditions Eugene Leibsohn, M.D.

Application for Postgraduate Seminar in Obstetrics, Gynecology, and Pediatrics at Good Samaritan Hospital, September 22 and 23, 1961.

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September 14, 1961

8:30 a.m.	Registration — no fee
9:00 a.m.	Greetings and Introductions Matthew J. Noon, M.D., President, Arizona Thoracic Society Lloyd M. Farner, M.D., Arizona State Health Commissioner

Fred J. Payne, M.D., Chief, Bureau of Preventive Disease Control, Arizona State Health Department
Stanford F. Farnsworth, M.D., Director, Maricopa County Health Department

9:30 a.m. Trends in the Treatment of Tuberculosis, Including Chemotherapy
Julius L. Wilson, M.D., Director of Medical Education, American Thoracic Society, New York
Question and answer period

10:45 a.m. Coffee break

11:00 a.m. Indications for Pulmonary Resection in Infections of the Lung
Robert R. Shaw, M.D., Chief, Section of Thoracic Surgery, Baylor University Medical Center, Dallas, Texas
Question and answer period

12:30 p.m. Lunch

2:00 p.m. Diagnosis, Treatment and Prognosis of Childhood Tuberculosis
Rosa Lee Nemir, M.D., Professor of Pediatrics, New York University Medical School and Bellevue Pediatrics Service, New York
Question and answer period

3:30 p.m. Coffee break

3:45 p.m. Discussion on pulmonary physiology and application of results of various pulmonary function studies in practice
James Kieran, M.D., Berkeley, California

5:15 p.m. Adjourn

September 15, 1961

8:00 a.m. Fungus Diseases
Michael L. Furcolow, M.D., Chief, Communicable Disease Center, Kansas City Field Station, U. S. Public Health Service, Kansas City, Kansas
Question and answer period

8:45 a.m. New Horizons in Respiratory Disease
Julius L. Wilson, M.D.
Question and answer period

9:30 a.m. The Effect of Dust Fumes and Air Pollution on the Lungs
Oscar A. Sander, M.D., Milwaukee, Wisconsin
Question and answer period

11:00 a.m. Coffee break

11:15 a.m. Differential Diagnosis of Tuberculosis in Children Including Mediastinal Enlargement
Rosa Lee Nemir, M.D.
Question and answer period

12:30 p.m. Lunch

2:00 p.m. New Approaches to the Treatment of Bronchogenic Carcinoma
Robert Shaw, M.D.
Question and answer period

3:30 p.m. Coffee break

3:45 p.m. Panel discussion on Cor Pulmonale — Hypertension of the Lesser Circulation
Shaw McDaniel, M.D., Phoenix, from the clinician's side
James Kieran, M.D., from the angle of the pulmonary physiologist
Joseph Beeman, M.D., Tucson, from the view of the pathologist
Question and answer period

5:30 p.m. Adjourn

This aforementional symposium is co-sponsored by:
The American Thoracic Society
United States Public Health Service
Arizona State Department of Health
Maricopa County Health Department
Arizona Tuberculosis and Health Association, Inc.
Greater Phoenix TB and Health Association

REGIONAL CONFERENCE ON MEDICAL EDUCATION

"Medical Education and Health Sciences in the West" will be the subject of a special one-day conference at the University of Utah, Salt Lake City, on September 12, 1961. Scheduled for the day preceeding the opening of the annual meeting of the Utah State Medical Association, the conference will be jointly sponsored by the Western Interstate Commission for Higher Education (WICHE) and "What Goes On," the postgraduate education information service of the *Rocky Mountain Medical Journal.*

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School of Medicine
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Palo Alto, California

S. Benjamin Fowler, M.D.
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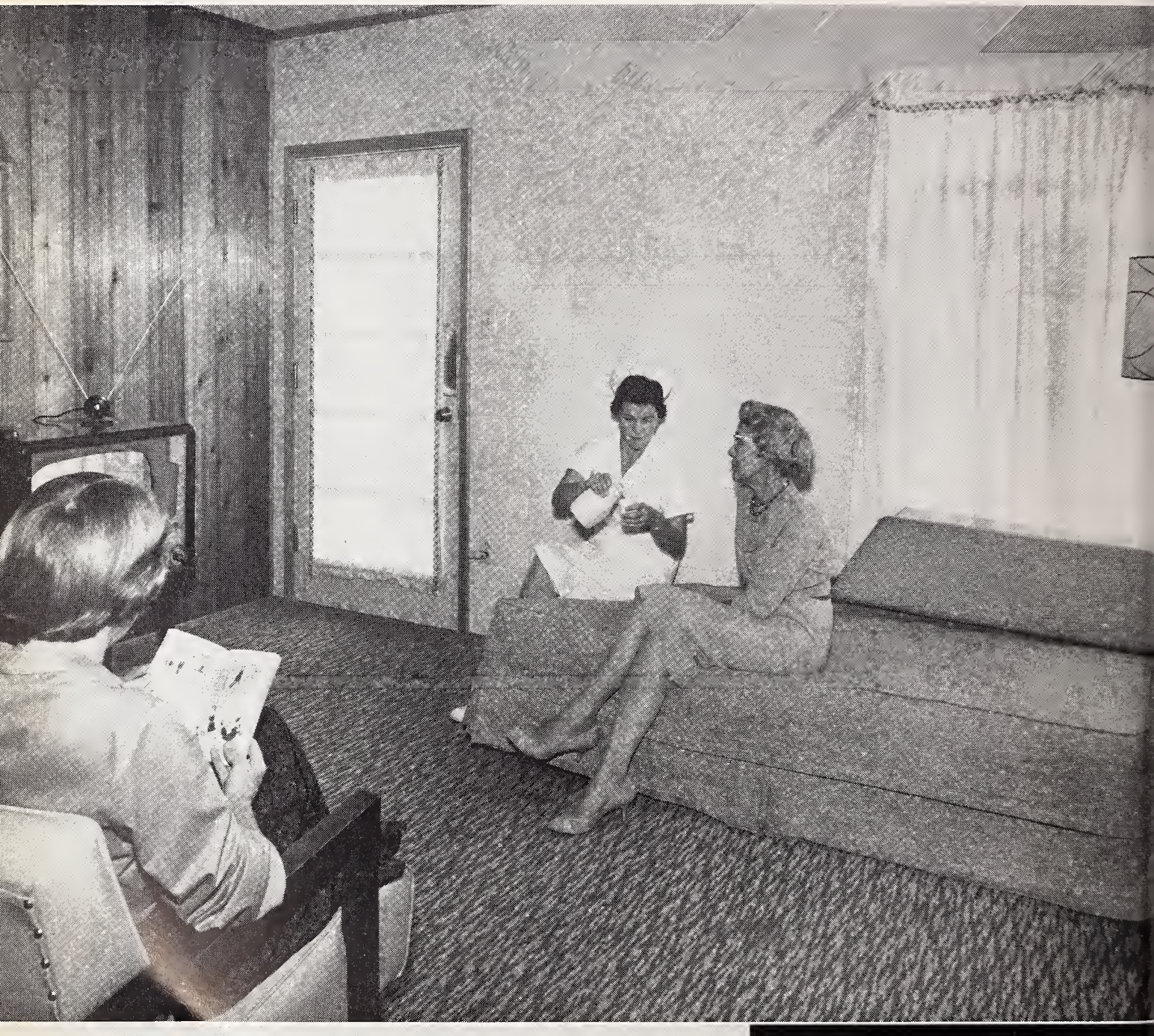
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INDEX TO ADVERTISERS

American Tobacco Co. 24A
Ames Co., Inc. Inside Back Cover

Burroughs-Wellcome Co., Inc. 23A
Butler's Rest Home 76A

Camelback Hospital 74A
Camelback Professional Building 33A
Case, G. M. Laboratories, Inc. 66A
Coca Cola, The, Co. 81A

Doctor's Directory 76A

Endo Laboratories 18A

Franklin Hospital 76A

General Electric Co. - X-Ray Div. 26A
Glenbrook Laboratories 13A

Hillcrest Medical Center 76A
Hobby Horse Ranch School 77A

Las Encinas Sanitarium 258
Lederle Laboratories 14A, 15A
Lilly, Eli & Co. Cover, 22A
Loftins Business Forms 12A
Lorillard P. & Co. 52A

Mead Johnson & Co. Back Cover
Medical & Dental Finance Bureau 31A
Merck, Sharp & Dohme 75A

National Casualty Co. 77A
Nurse's Directory 76A

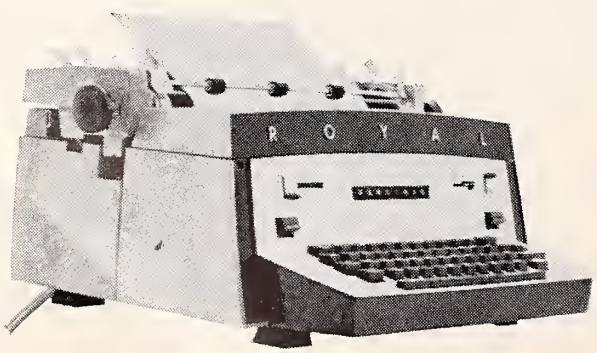
Parke-Davis & Co. Inside Front Cover, 1A
P.B.S.W. & Co. 82A
Pfizer Laboratories, Inc. 53A, 54A, 55A
Pharmacy Directory 81A
Phillips-Roxanne, Inc. 16A
Physicians' Casualty Association 66A

Robins, A. H. & Co. 4A, 27A, 35A, 36A, 37A
Roche Laboratories 21A
Roerig Laboratories 25A, 34A
Ryan Evans Drugs 12A

Schering Corporation 19A
Searle, G. D. & Co. 48A
Smith, Kline & French Lab. 56A
Squibb, E. R. & Sons, Co. 17A, 46A, 47A
Standard Brands, Inc. 68A

Upjohn, The Co. 8A

Wallace Laboratories.....5A, 38A, 39A, 51A, 73A
Wayland Drugs 76A
Wesson Oil & Snowdrift Sales Co.....28A, 29A
Winthrop Laboratories....3A, 20A, 40A, 49A, 67A



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(1) Danowski, T. S.: Diabetes Mellitus, Baltimore, Williams & Wilkins, 1957, p. 239. (2) McCune, W. G.: M. Clin. North America 44:1479, 1960. (3) Ackerman, R. F., **et al.**: Diabetes 7:398, 1958.

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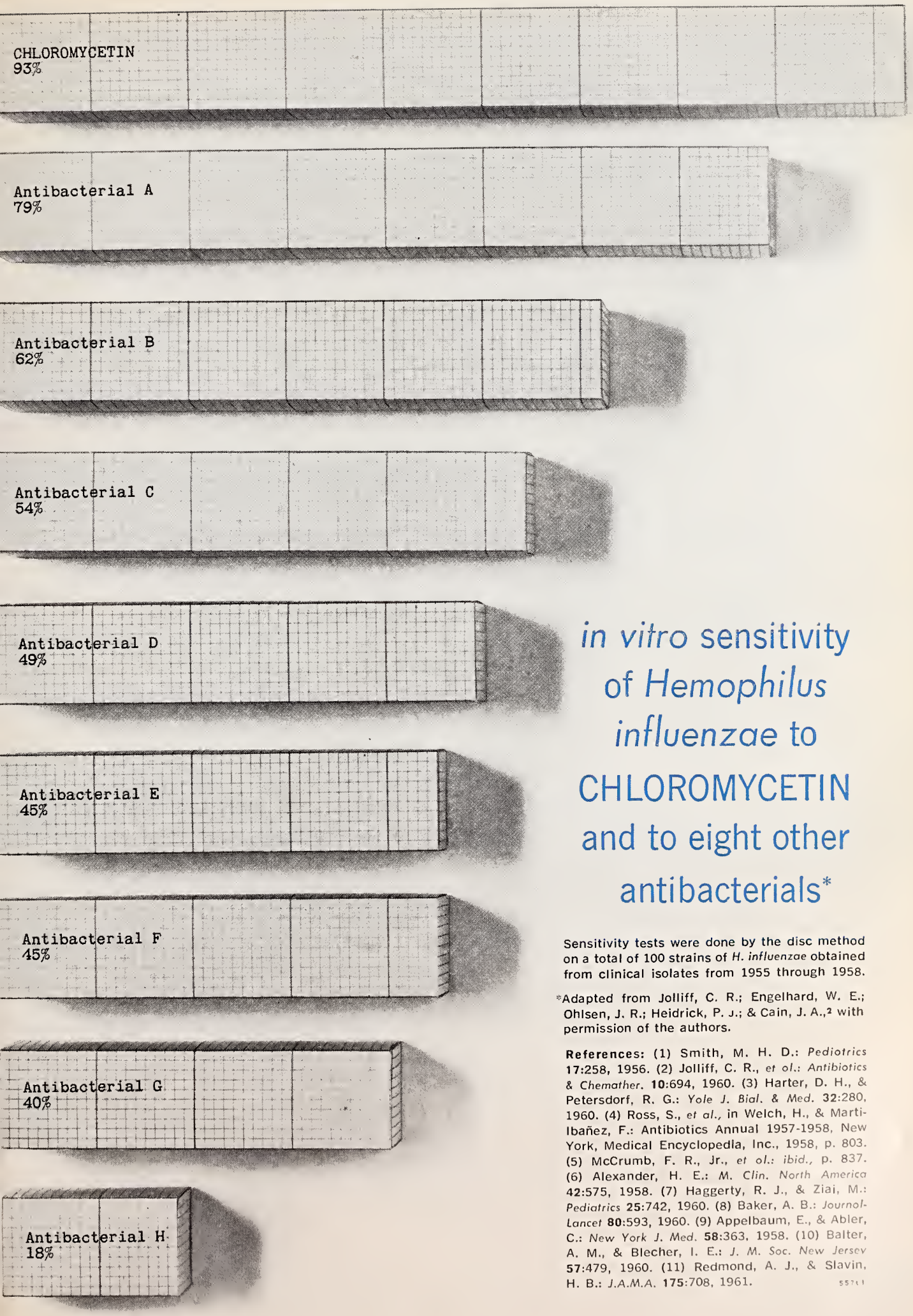
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October, 1961 Vol. 18, No. 10

Table of Contents

ARIZONA MEDICAL ASSOCIATION REPORTS

BOARD OF DIRECTORS MEETING, JULY 9, 1961, MINUTES 13A
ARMA STATEMENT, HOUSE WAYS AND MEANS COMMITTEE 23A
BENEVOLENT & LOAN FUND COMMITTEE, MINUTES JULY 9, 1961 26A

ORIGINAL ARTICLES

RADIOIODIDE TREATMENT OF HYPERTHYROIDISM, ITS USE IN AREAS REMOTE FROM MEDICAL CENTERS 259
Robert E. Flynn, M.D. – James J. Riordan, M.D.

GASTRIC RESECTIONS – ST. JOSEPH'S HOSPITAL, 1953-1959 261
E. Payne Palmer, Jr., M.D.

WHAT TO REMEMBER – WHAT HAS BEEN ACCOMPLISHED AND WHAT IS STILL TO BE DONE ABOUT CHEMICAL WARFARE (CW) AND BIOLOGICAL WARFARE (BW) DEFENSE 269
Charles W. Steele, M.D.

EMERGENCY HEALTH SERVICE CONCEPT 281
Robert L. Smith, M.D.

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

PROGRAM OF DECEMBER 6, 7, 8, 1961, MEETING 44A

PRESIDENT'S PAGE

LETTER TO DOCTOR SMITH, Carl M. Bengs, M.D. 48A

EDITORIALS

THE PRESERVATION OF HEALTH, Hugh H. Smith, M.D., M.P.H. 58A
EDITOR'S NOTES 60A
LETTERS TO THE EDITOR; Leslie B. Smith, M.D. 60A
Dry Gulch Jake 61A

IN MEMORIUM

BERNARD L. WYATT, M.D. 1883-1961 66A

TOPICS OF CURRENT MEDICAL INTEREST

STATEMENT, ARIZONA COMMISSION WICHE, REGARDING VOLKER REPORT.. 71A

FUTURE MEDICAL MEETINGS AND POSTGRADUATE EDUCATION

LOS ANGELES MIDWINTER RADIOLOGICAL CONFERENCE 76A
AMA CLINICAL MEETING 76A
AMERICAN COLLEGE OF CHEST PHYSICIANS 76A

DIRECTORY

OFFICERS AND COMMITTEES 6A
SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTE AMERICA Y MEXICO.... 8A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 8A
WOMEN'S AUXILIARY 8A
INDEX TO ADVERTISERS 82A

Published monthly by the Arizona Medical Association, Inc. Business office at 4533 North Scottsdale Road, Suite 211, Scottsdale, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.

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NEW...made from 100% corn oil UNSALTED MARGARINE FOR HYPERTENSIVE PATIENTS

* contains only 10 mgs. of sodium per 100 grams
* contains 50% liquid corn oil and 50% partially hydrogenated corn oil
* has 30% linoleic acid—10 times that of butter

Because of the relationship of high-sodium intake to elevated blood pressure, new Fleischmann's Unsalted Corn Oil Margarine will prove to be a valuable addition to the dietary regimen of your hypertensive patients. It contains only 10 mgs. of sodium per 100 grams.

Fleischmann's Unsalted Margarine is made from 100% corn oil and contains both liquid corn oil and partially hydrogenated corn oil. Its linoleic acid content of 30% is three times higher than the 10% of regular margarines and ten times higher than the 3% of butter. This is the *only* unsalted margarine made from 100% corn oil.

The substitution of Fleischmann's Unsalted Corn Oil Margarine for butter or ordinary margarines in your hypertensive patients' dietary regimen has the added advantage of increasing their intake of high polyunsaturates . . . important because of their association with hypertension and atherosclerosis.

If your hypertensive patient needs sodium restriction, recommend Fleischmann's Unsalted. It has a light, delicate taste that he'll like. Tell him that it is available in his grocer's frozen food case.

Write now for physician booklet of 5 coupons—eaeh coupon redeemable by your patient for 1 lb. of Fleischmann's Unsalted Margarine. Address Fleischmann's Unsalted Margarine, 625 Madison Avenue, N. Y. 22, N. Y. *Distribution presently limited in some areas.*

In line with the suggestion of the American Heart Association to manufacturers, we are listing the fatty acid composition of Fleischmann's Unsalted (Sweet) Margarine:

Unsaturated Fatty Acids:	
Polyunsaturates	30%
Monounsaturates	50%
Saturated Fatty Acids	20%
	100%

AVERAGE DAILY INTAKE
Two Ounces or Eight Pats of Fleischmann's Corn Oil Margarine Will Supply

Corn Oil—Liquid	22.7 Gm.
Corn Oil—Partially Hydrogenated	22.7 Gm.
Iodine Value	90-95
Sodium (dietetically sodium-free)	6 Mgs.
Linoleic Acid	13.6 Gm.
Vitamin A (Adult's Need)	47%
Vitamin A (Child's Need)	62%
Vitamin D (Adult's and Child's Need)	62%



Fleischmann's
Fresh-Frozen in the green foil package
in your grocer's frozen food case

ONLY UNSALTED MARGARINE MADE FROM 100% CORN OIL

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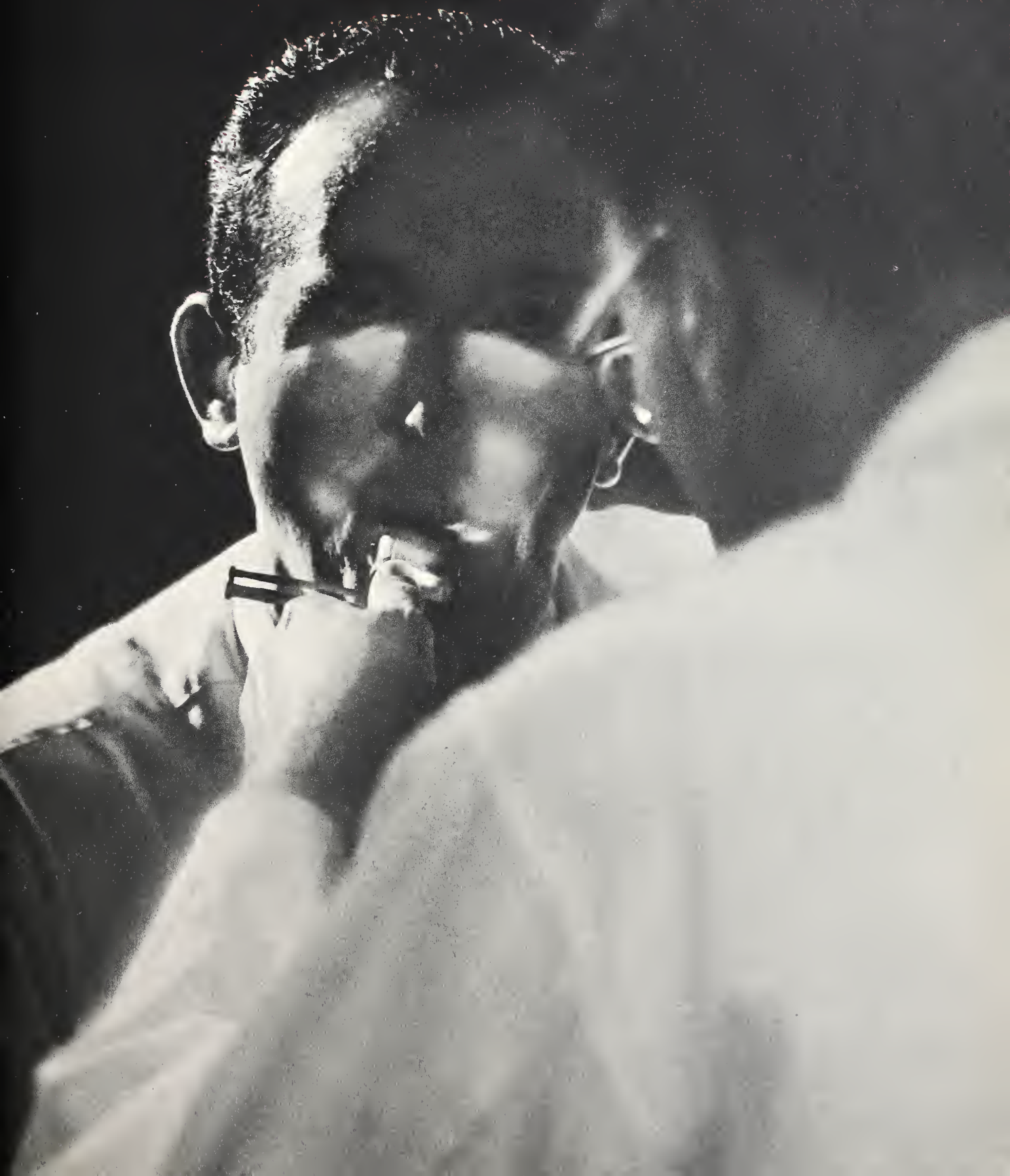
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Increasingly...
the
trend is to
Terramycin®
OXYTETRACYCLINE WITH GLUCOSAMINE

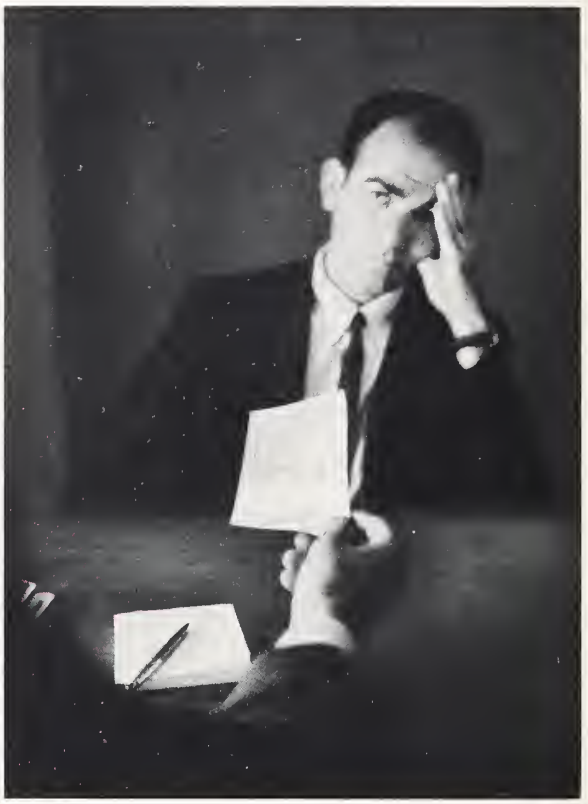
confirmed dependability in sinusitis is just one reason why



According to a recent report* on the effectiveness of Terramycin in 106 cases of upper respiratory tract infection: "The response in sinusitis was particularly gratifying, as both acute and chronic cases were controlled within an average of five days."

"It was the impression of the hospital staff that oxytetracycline [Terramycin] was not only better tolerated, but more effective than other antibiotics habitually used."

The results reported in this and many other studies confirm the vitality of Terramycin for broad-spectrum antibiotic therapy and demonstrate why —increasingly—the trend is to Terramycin.



In brief

The dependability of Terramycin in daily practice is based on its broad range of antimicrobial effectiveness, excellent toleration, and low order of toxicity. As with other broad-spectrum antibiotics, overgrowth of nonsusceptible organisms may develop. If this occurs, discontinue the medication and institute appropriate specific therapy as indicated by susceptibility testing. Glossitis and allergic reactions to Terramycin are rare. Aluminum hydroxide gel may decrease antibiotic absorption and is contraindicated.

More detailed professional information available on request.

another reason why the trend is to Terramycin—*versatility of dosage form:*

TERRAMYCIN Syrup/Pediatric Drops
125 mg. per tsp. and 5 mg. per drop (100 mg./cc.), respectively—deliciously fruit-flavored aqueous forms . . . preconstituted for ready oral administration

TERRAMYCIN Intramuscular Solution
50 mg./cc. in 10 cc. vials; 100 mg. and 250 mg. in 2 cc. ampules—the broad-spectrum antibiotic for immediate intramuscular injection . . . conveniently preconstituted . . . notably well tolerated at injection site with low tissue reaction compared to other broad-spectrum antibiotics

Terramycin®

OXYTETRACYCLINE WITH GLUCOSAMINE

CAPSULES *250 mg. and 125 mg. per capsule*

convenient initial or maintenance therapy in adults and older children

Science for the world's well-being® Pfizer

PFIZER LABORATORIES Division, Chas. Pfizer & Co., Inc.
New York 17, N. Y.

*Jacques, A. A., and Fuchs, V. H.: J. Louisiana M. Soc. 113:200, May, 1961.

Pfizer *Science for the world's well-being®*

Dear Doctor:

Reports from our representatives indicate that many physicians would appreciate simplification for prescription-writing purposes of the names of Terramycin products in both the "plain" and the "Cosa" dosage forms.

The "Cosa" forms originated, you may recall, on the basis of clinical evidence of enhanced antibiotic absorption when glucosamine is employed in oral administration. To permit each physician individually to study this evidence and choose which form he would prefer to prescribe, we offered Terramycin in both forms—that is, in the regular Terramycin forms without glucosamine, and in the "Cosa" forms with glucosamine.

This distinction appears to be no longer necessary since glucosamine, a highly acceptable excipient for oral antibiotics, now is being incorporated uniformly in all such forms, thereby simplifying nomenclature and your prescription writing.

Accordingly, and effective immediately, forms incorporating glucosamine will be offered simply as Terramycin without the "Cosa" prefix.

To make clear just which forms are affected, please refer to the brief tabulation (below) of Terramycin dosage forms both *before* and *after* this change. We are also requesting our representative to call on you at an early date to answer any questions that may arise.

We feel certain that this action, prompted by your comments and those of many other physicians, will simplify your writing of prescriptions for Terramycin products.

We welcome your comments on this action and on any other phase of our operations, since it is our objective to render every service as efficiently as possible to our friends in the medical profession.

Sincerely,
PFIZER LABORATORIES

The following table indicates the former name and the current name of Terramycin systemic preparations:

FORMERLY NAMED	NOW NAMED
Cosa-Terramycin® Capsules	**Terramycin**® Capsules*
Cosa-Terrabon® Oral Suspension	**Terramycin** Syrup
Cosa-Terrabon Pediatric Drops	**Terramycin** Pediatric Drops

and simpler names for these Terramycin-containing formulations:

Cosa-Terrastatin® Capsules	**Terrastatin**® Capsules
Cosa-Terrastatin for Oral Suspension	**Terrastatin** for Oral Suspension
Cosa-Terracydin® Capsules	**Terracydin**® Capsules

. . . and these names remain unchanged:

Terramycin Intramuscular Solution
Terramycin Intravenous

**Terramycin Capsules* without glucosamine *are no longer available.*

The clinical versatility of Terramycin is enhanced by its specialized dosage forms adapted to individual needs—*another reason for the trend to Terramycin.*



Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing.

Rautrax-N offers all the advantages of Raudixin, Naturetin and potassium chloride in a single dosage form *plus: increased efficacy* – Combined action of Raudixin and Naturetin results in a potentiated antihypertensive effect greater than that produced by either drug alone. *increased safety* – Potentiated action permits lower dose of other antihypertensive agents, thus reducing severity of side effects. Protection against possible potassium depletion. *flexibility* – Interchangeable with either Raudixin or Naturetin ¢ K. *economy* – Maintenance dosage of only 1 or 2 tablets daily for most patients. *convenience* – Once-a-day maintenance dosage. Two potencies available.

Supply: Rautrax-N – capsule-shaped tablets providing 50 mg. Raudixin, 4 mg. Naturetin and 400 mg. potassium chloride. *Rautrax-N Modified* – capsule-shaped tablets providing 50 mg. Raudixin, 2 mg. Naturetin and 400 mg. potassium chloride.

Rautrax-N*

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Bendroflumethiazide (*Naturetin) with Potassium Chloride

For full information, see your Squibb Product Reference or Product Brief.

SQUIBB
Squibb Quality – the Priceless Ingredient

*RAUDIXIN®, *RAUTRAX® AND *NATURETIN® ARE SQUIBB TRADEMARKS.

Arizona Medical Association Reports

Arizona Medicine

October, 1961 Vol. 18, No. 10

Board of Directors Meeting July 9, 1961 Minutes

Meeting of the Board of Directors of The Arizona Medical Association, Inc., July 9, 1961.

EXECUTIVE COMMITTEE REPORT

Dr. William B. Steen, Vice President and Chairman of the Board of Directors, reported the following actions taken by the Executive Committee in meeting held May 21, 1961 and July 8, 1961:

DR. STEEN: I will proceed to review the actions of the Executive Committee in meeting held May 21, 1961:

House of Delegates — Resolutions

In line with Resolutions Nos. 1, 2, 3, 4, 5, 7 and 13, adopted by the House of Delegates April 28, 1961, in accordance with direction, the Board of Directors, through its Executive Committee, authorized preparation thereof in pamphlet form and distribution approximating 2,276 copies at a total cost approximating $500.00, the cost of which is to be financed out of the General Fund, there having been no appropriation provided therefor in the Budget covering April 1, 1961, to December 31, 1961. Action approved.

Resolution No. 6, referable to Benevolent and Loan Fund Assessments and particularly a proposed amendment to Chapter VII, Section 4(a) of the By-Laws, was referred to the Medical Economics Committee for review, study and recommendation. Approved.

Resolution No. 8, providing for "Study, Report and Recommendation to all Aembers of The Arizona Medical Association an Actuarially Sound Program to Combine Medical Student Loan, and Voluntary Physicians Disability and Retirement Plan Under One Fund," was referred to the Medical Economics Committee for its information, review, comment and/or recommendation to be forwarded to the Board of Directors. Approved.

National Foundation — Polio Vaccinations

In response to The National Foundation seeking endorsement of this Association of its June Polio Vaccination Campaign, recommends to the Board of Directors that it be informed that the Association has been and continues to be in favor of polio vaccination and endorses the determination of the Foundation to confer with the County Medical Societies of this state seeking their cooperation, approval and or disapproval of its planned campaign.

A poll of the Board membership under date

of May 22, 1961, resulted in twenty members of the Board approving this action, one abstaining from voting and one did not vote. Board reaffirmed action.

The Foundation reports appointment of Donald K. Buffmire, M.D., of Phoenix, to membership of its Health Scholarship Committee for Arizona which appointment has been accepted by Dr. Buffmire. Received and filed.

Industrial Commission of Arizona

Industrial Commission of Arizona appoints Association members to its Industrial Relations Committee including Doctors John F. Currin (Flagstaff), Juan E. Fonseca (Tucson), Oscar W. Fricks (Ajo), Charles P. Neumann (Tucson), John H. Ricker (Phoenix), and Robert W. Weber (Tucson) as members constituting its Medical Advisory Board.

Benevolent and Loan Fund Committee

Associate with the Benevolent and Loan Fund Trust No. 120-03068 V.N.B., established through the Valley National Bank, it is reported that as of November 1, 1955, Valley National Bank established a Diversified Common Trust Fund as permitted by Arizona Law and Regulations of the Board of Governors of the Federal Reserve System. The purpose of the fund is to bring together assets of several of other trusts and guardianships into one common fund for the mutual advantage of all through a more diversified investment program. As of April 28, 1961, Valley National Bank has invested assets of the Association Trust amounting to $20,173.00. A statement of transactions covering the period February, 1961 thru April, 1961, together with a duplicate statement of assets as of April 16, 1961, were filed with the Association in accordance with agreement and referred to the Treasurer and Accountant. Received and approved.

Small Business Association, Inc.

The Small Business Association, Inc., requests this Association to extend its aid and approval of its efforts associate with the repeal of the Inventory Tax. The matter was referred to counsel and following review it is recommended that no action be taken, such activity being beyond the scope of operation and purposes of this Association.

Recommendation concurred in.

1961 Annual Meeting — Technical Exhibits

The Del E. Webb Corporation, Investment and Financing Division, expresses its unhappiness in being refused the privilege of offering a "Hospitality Room" in the Safari Hotel in Scottsdale, during the 70th Annual Meeting of the Association for the purpose of promoting the Wilmot Medical Building, under construction by the company, in the Tucson area. The President, Dr. Smith, responded, setting forth in detail the reasons for denying such privilege based on conflict with policy established in the conduct of the Exhibit Section of the Annual Meeting.

It was moved by Dr. Beaton, seconded by Dr. Singer and unanimously carried that the action taken by the President, Dr. Smith, in this instance be approved; and that the Board hereby determines that in the future during the Annual Meeting of the Association, Hospitality Rooms will only be made available to its components, including County Medical Societies and Blue Shield.

AMA — General Practitioner of the Year

The American Medical Association requires constituent State Medical Societies to submit nominations for the 1961 General Practitioner of the Year, to be filed not later than November 1, 1961, for consideration and selection prior to the Clinical Meeting of AMA scheduled to be held in Denver, November 27-30, 1961. It was determined to communicate with component County Medical Societies apprising them of this event and requesting individual nominees, should they have such. This has been done. It was further reported that the House of Delegates of AMA in Annual Meeting recently concluded in New York City, determine to discontinue the General Practitioner of the Year Award. Component County Medical Societies have been so informed. Action approved.

Legislative Committee

In the matter of notification received from AMA apprising this Association of a General Assembly to be held by the United Presbyterian Church of the United States of America in Buffalo, New York, May 17-23, 1961, attention was directed to the stand of the National Council of Churches, which body has gone on record favoring the Social Security approach to medical care for the aged, the President, Dr. Smith, reported results of contacts made with members of the Board of Christian Education, comprising Commissioners (Delegates to the General Assembly), Ministers, and Elders of the Phoenix (Central),

Southern and Northern Arizona areas. The delegation to the General Assembly, concluding its deliberations in Buffalo, took no stand in the matter of medical care for the aged insofar as the Social Security approach is involved. Action approved.

The Board of Directors, by mail poll, voted, twenty approving, one disapproving, and one not voting in the matter of authorization of payment of expenses of a member of this Association to be selected to attend the meeting in Washington, D. C., June 15-16, 1961, called by Abraham Ribicoff, Secretary of USPHS, to consolidate gains made through the activities preceding the White House Conference on Aging to assure continued vigorous and purposeful direction in bringing about implementation of the recommendations of the Conference. It was stated that the Governor appointed Charles P. Neumann, M.D., of Tucson, as a representative of this state, to attend the meeting in question thereby making it unnecessary for this Association to select and expend funds for such purpose. Dr. Neumann filed with the Association, a report on the results of this meeting, the contents of which were abstracted for the enlightenment of the Board. Action approved.

Regarding H.R. 4422 — King-Anderson Bill, the House Ways and Means Committee proposes the scheduling of hearings on this measure to commence July next. By mail vote, the Board of Directors voted; nineteen approving, two approving preparation of statement and disapproving oral testimony and one not voting to the question: Shall the Association request of the House Ways and Means Committee the privilege to appear before it and testify in opposition to this legislation; and further, present a prepared statement relative thereto. To the question: Does the Board approve or disapprove the expenditure of funds for a representative of the Association to attend the hearing of the House Ways and Means Committee in Washington, D. C., when called; eighteen approved, two voted approval providing oral testimony is given, and two voted disapproval. Accordingly, such request was forwarded to Washington. Action reaffirmed and approved.

Derrill B. Manley, M.D., of Phoenix, appointed member of the Legislative Committee of this Association for the term 1961-64, and designated its Chairman, declined acceptance of the "Chairmanship," however, agreeing to accept appointment as a member. The President, subject to Board approval, designated MacDonald Wood, M.D., of Phoenix, a member of this committee previously appointed for the term 1959-1962, Co-Chairman along with Dr. Jesse D. Hamer, likewise Co-Chairman. Action approved.

Bad Risk Insurance Pools

In the matter of correspondence by the President, Dr. Smith, and Representative John J. Rhodes, regarding the potential of "bad risk insurance pools" for the purposes of underwriting by the insurance industry so-called sub-standard applicants, such action having been taken by several local insurance companies of the State of Connecticut, the AMA was contacted in an endeavor to furnish Mr. Rhodes with as much information as possible in this regard. It was further suggested that our Delegate to AMA, Dr. Jesse D. Hamer, might consider the suggestion worthy of introduction of a resolution in the AMA House of Delegates during its Annual Meeting to support the objective. Action approved.

Women's Auxiliary

In the matter of payment of expenses totaling $121.42, representing the cost of the "Hospitality Suite" occupied by the Women's Auxiliary during the recently concluded Annual Meeting of the Association, it is authorized; however, it is further recommended that in the future the Association assume only the cost of two rooms to be occupied by the Women's Auxiliary, one for the purpose of conducting a "Hobby Display" and the other as a "Hospitality Room," exclusive of any other charge incurred such as incidentals, telephone calls, etc., and that the Women's Auxiliary be so notified and alerted to the fact that they will be required to assume any and all other charges incurred over and above room rental. Recommendation concurred in.

Finance

The monthly statement of Income and Expenditures covering April, 1961, indicated total receipts amounting to $15,121.82 and total expenditures of $9,923.66. Inasmuch as a similar report is available covering the month of May, the Treasurer, Dr. Dudley, will report in detail covering each period later on in this meeting. Accepted.

Southern Arizona Regional Science Fair

Robert L. Nugent, Executive Vice President, University of Arizona, expresses appreciation for this Association's contribution in the sum of $50.00 pledged toward expenses of its 1961 Southern Arizona Regional Science Fair Program. Received.

President's Dinner-Dance

Miss Helen M. Pugh, Executive Secretary, Arizona State Dental Association, and Mr. Roland W. Wilpitz, representing the Arizona Hospital Association, respectively express, with appreciation, the courtesy extended each as guests of the Association on the occasion of the President's Dinner-Dance, April 28, 1961. Received.

Annual Award Paper

Harry E. Thompson, M.D., of Tucson, expresses his appreciation and thanks, as recipient of the prize-winning Annual Award Paper, for the Plaque presented to him. Received.

Water Fluoridation

Arizona Dental Association expresses appreciation for the cooperation expressed in telegram received from the AMA during its 12th Annual Dental Health Conference in Chicago referable to "Action Programs on Dental Health" designed to consider the need for public understanding of fluoridation of communal water supplies as a highly desirable health measure. Received.

H.R. 3556 — Humane Treatment of Animals

Senator Carl Hayden and Representatives John J. Rhodes and Morris K. Udall acknowledged receipt of Resolution No. 14 adopted by the House of Delegates of this Association April 28, 1961, expressing its opposition to the legislation dealing with animal experimentation which would impede scientific progress in the advancement of the medical sciences and the relief of human suffering. Received.

Board of Medical Examiners — Nominees

Doctors Deward G. Moody and Walter Brazie, nominaed by the Board of Directors, April 26, 1961, for consideration by the Governor to serve as members of the Board of Medical Examiners of the State of Arizona, declined acceptance of the nomination. Nominations of Francis M. Findlay, M.D. (San Manuel - Pinal) and Frederick W. Knight, M.D. (Safford - Graham) were recommended to the Board as substitute nominees. A mail poll of the membership of the Board was undertaken and completed, 19 members voting approval, one abstaining, one did not vote, and one approved Dr. Findlay, abstaining from voting for Dr. Knight because of his unfamiliarity of the Safford physician. Action reaffirmed.

Governor Paul Fannin advises the appointment of Dr. Arnold H. Dysterheft of McNary, and reappointment of Dr. Francis M. Findlay of San Manuel, members of the state Board of Medical Examiners, each for a term of three years commencing July 1, 1961. Received.

Professional Liaison Committee

Max Costin, M.D., of Tucson, submits his resignation as a member of the Professional Liaison Committee, previously appointed for the term 1960-1963. Accepted.

Podiatry

The Podiatrists of Arizona express displeasure in their exclusion from advertising in Arizona Medicine Journal.

The American Academy of Orthopaedic Surgeons submits a "Statement of Policy" relative to the "Practice of Podiatry in Hospitals." This matter was referred to the Professional Liaison Committee for study and report. Action approved.

Medical School Study

The President, Dr. Smith, reported in the matter of meetings of the Medical School Study and suggestion of continuing cooperation between Arizona - Sonora in the field of health sciences. Received.

Ronald Reagan — Recording

Attention is directed to the recording by Ronald Reagan on the subject of social security, available for presentation to community audiences. Received.

Arizona Association of Nursing Homes

Recommended that Kenneth E. Johnson, M.D., of Phoenix, be designated a member of the Advisory Committee to the Arizona Association of Nursing Homes, Inc., representing this Association to assist that organization in its program of improving standards and facilities available in the nursing home field; further, that consideration be given an appointee representing the Tucson area, having an appreciable number of nursing homes within that city.

Action approved with the recommendation to the Arizona Association of Nursing Homes, Inc., that William B. Steen, M.D., of Tucson, likewise be considered a member to serve on its Advisory Committee. Approved.

Standing and Special Committees

It was reported that all appointees or re-appointees as members to serve on standing committees including Industrial Relations; Medico-Legal; Professional; Professional Liaison; Public Relations; Publishing and such committees including Articles of Incorporation and By-Laws; Central Offrice Advisory; Executive and Medical School have accepted the assignments and each such committee is now fully complemented and in position to organize. Received.

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DR. STEEN: I will now proceed to review the actions of the Exccutive Committee Meeting held July 8, 1961:

AMA Delegates

Doctors Jesse D. Hamer and Lindsay E. Beaton, this Association's Delegates to the House of Delegates of the American Medical Association, were called upon to give us a brief resume of actions taken at the time of the Annual Meeting held in New York City, June last.

Of special interest is the fact that the five resolutions adopted by our House of Delegates, April 28, 1961, and authorized introduced into the House of Delegates of AMA in Annual Meeting, were all approved by the National Body with only minor amendments in one or two instances.

Possibly one of the most important actions taken by the AMA House of Delegates following review of report of the Judicial Council and three resolutions all relating to the subject of osteopathy, was the adoption, by the House, of a statement representing AMA policy, quoted below:

"1. There can never be an ethical relationship between a doctor of medicine and a cultist, that is, one who does not practice a system of healing founded on a scientific basis.

"2. There can never be a majority party and a minority party in any science. There cannot be two distinct sciences of medicine or two different, yet equally valid systems of medical practice.

"3. Recognition should be given to the transition presently occurring in osteopathy, which is evidence of an attempt by a significant number of those practicing osteopathic medicine to give their patients scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

"4. It is appropriate for the American Medical Association to *reappraise its application of policy* regarding relationships with doctors of osteopathy, in view of the transition of osteopathy into osteopathic medicine, in view of the fact that the colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature and the reliance of osteopaths on and use of medical literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

"5. Policy should now be applied individually at state level according to the facts as they exist. Heretofore, this policy has been applied collectively at national level. The test now should be: Does the individual doctor of osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical Association, voluntary professional relationships with him should not be deemed unethical."

Report received. It was directed that the statement of AMA policy as pertains to Osteopathy be referred to the Professional Liaison Committee for study and report.

Central Office Advisory Committee

The Treasurer, Dr. Dudley, was called upon to submit his Financial Report on Income and Expenditures for the months of April and May, 1961. Accepted.

Attention is directed to the fact that the Association has not, to date, disposed of its lease of quarters in the Central Towers Building, Phoenix.

A "Sick Leave" schedule was reviewed, discussed and approved, it being understood that its application will depend upon the action of

the Executive Committee in each instance. Accepted.

Iowa State Medical Society Annual Report

Iowa State Medical Society submits its 1960-61 Annual Report in pamphlet form including a resume of the activities of that society. Recommended that a similar publication be developed by this Association. Recommendation of Executive Committee rejected due to cost factor.

History and Obituaries Committee

Edward M. Hayden, M.D., of Tucson, declined acceptance of previous appointment by the Board to serve as a member of its History and Obituaries Committee. Harold W. Kohl, M.D., of Tucson, was given an interim appointment by the President as a replacement. Declination accepted. Appointment approved.

Alabama Medical Association

Resolution adopted by the Alabama Medical Association supporting the provisions of the Kerr-Mills Law. Received.

H.R. 4222 — King-Anderson Bill

In line with action of the American Nurses Association supporting H.R. 4222, the King-Anderson Bill, it was suggested by AMA that it might be wisdom to contact local groups of registered nurses to ascertain whether or not they had voted for or supported such stand. It was determined that this course be pursued if possible, to approach some segments of the nursing group in order to ascertain their stand.

Question was raised by the President as to the advisability of contacting the Osteopathic Association in an endeavor to ascertain its position referable to H.R. 4222. The Executive Secretary was directed to make contact.

Washington State Medical Association adopts resolution to be introduced into the AMA House of Delegates disapproving the King-Anderson Bill and urging support of the Kerr-Mills Bill. Received.

Testimonial Dinner — Washington

Senator Barry Goldwater made inquiry as to financial support referable to the Washington Testimonial Dinner. The President reviewed contacts. Received.

Life Line Subscription

Life Line radio program on "Socialized Medicine," broadcast over 170 radio stations, June 5, 1961, reported an availability of subscriptions to Life Line's publication. Received. No action.

Phoenix Junior Chamber of Commerce

Phoenix Junior Chamber of Commerce, hosting a Model Constitutional Convention in November, 1961, seeks financial support of this Association. Recommended that while the Association is in sympathy with the goal, it disapproves financial support on a state level. Action approved.

AMA — Young Women's Christian Association

AMA calls attention to action of YWCA in adopting resolution endorsing health benefits via the Social Security System. Suggested that component societies be apprised of this action, seeking any suggestions as to methods of countering such action, possibly through local YWCA Chapters. The President indicated that he would include this subject as he visits the component societies and also he will discuss the matter with the Public Relations Committee Chairman. Approved.

Medical Economics Committee

Request for revision of the "Physicians' Standardized Statement for Health and Accident Claims" to include a certification of "Assignment" charges to be paid direct to the attending physician covering any available medical and/or surgical benefits. Referred to the Medical Economics Committee for review and report. Action approved.

DR. STEEN:

Medical School Committee

Joseph F. Volker, D.D.S., Director of the Arizona Medical School Study, advised it is terminating its residence activities in this state, expressing its appreciation to the officers of this Association for its assistance during the period of the study.

The President, Dr. Smith, responded, expressing the personal opinion that Dr. Volker exemplified the highest qualities of leadership, organizational ability and intellectual guidance during said study. Received.

W. R. Manning, M.D., of Tucson, by letter dated June 30, 1961, expresses his opinion, seeking answers to certain questions and expressing the view that the citizenry of Arizona should be apprised of the views of the Association regarding the Medical School Study report.

Robert A. Price, M.D., President of the Maricopa County Medical Society, by letter dated July 3, 1961, submits "An Analysis of the Pre-

liminary Report, Arizona Medical School Study," by the Board of Directors of that society.

W. Albert Brewer, M.D., Chairman of the Medical School Committee, reported that his committee had met this morning and as the result of its deliberations, recommends to this Board of Directors the adoption of the following resolution:

"WHEREAS, in 1958 the House of Delegates of The Arizona Medical Association, Inc. sponsored the conception of an unbiased expert study of the needs for medical education in our state, and

"WHEREAS, The Arizona Medical Association advised the Board of Regents of the State Universities and Colleges to undertake such a study and was instrumental in obtaining the interest of outside parties in support of the study, and

"WHEREAS, the House of Delegates of The Arizona Medical Association in 1961, recognizing that physicians in private practice have no special competence in the field, officially expressed its willingness to consider the findings of a group of experts in medical education, now therefore be it

"RESOLVED, that while it recognized the right of any individual or group to an expression of opinion on the location of a medical school in our state, the Board of Directors of The Arizona Medical Association, Inc. wishes it understood that no component society speaks for the Association, and further believes that it is not now proper for the Association to add its voice in special pleading as to the location of a medical school, and be it further

"RESOLVED, that the attention of the Board of Regents be respectfully invited to the Arizona Medical School Study report as a basic document on all aspects of the problem of medical education in Arizona, and be it further

"RESOLVED, that the Board of Directors does believe that it has the duty and right to inform the Board of Regents that it is the overwhelming consensus of the physicians of Arizona that an early start must be made on the establishment of a medical school."

It was moved by Dr. Brewer and seconded by Drs. Beaton and Dudley, that the resolution recommended by the Medical School Committee be adopted. On a "raise of hands", 12 members voted in the affirmative, eight members in the negative, two members not voting, the motion carried.

It was moved by Doctor Reed, seconded and unanimously carried that the opinion of our legal advisor be made a matter of record as to the interpretations of this resolution and that a copy be sent to every member of the Board of Directors for their records.

It was moved by Dr. Smith and seconded by Dr. Singer to reconsider. On a "raise of hands", nine members voted in the affirmative, 10 members voted in the negative, three members not voting. Motion defeated.

Professional Committee

Report of the Special Committee appointed to serve the Senate Narcotic Study Committee, chairmaned by Lindsay E. Beaton, M.D., indicates that testimony given by the physicians representing this Association included the official stand of the AMA in this regard, to the effect that no further punitive legislation be passed to deal with the narcotics problem and that further study be given to both the legal and medical aspects. Report accepted.

Report presented by Lindsay E. Beaton, M.D., following meeting with members of the Arizona State Board of Examiners in the Basic Sciences, including attendance of counsels representing both this Association and the Board of Medical Examiners; W. R. Manning, M.D., likewise representing the latter Board, also in attendance, concludes that the only relief to the situation dealing with the entire problem of breakdown in Basic Science testing of applicants for licensure in this state, will be that obtained through legislative process. Report received, accepted, and that the recommendation as regards the Basic Science Statute, be referred to the Legislative Committee for implementation.

Drs. Otto L. Bendheim, John F. Currin, William B. McGrath, Abe I. Podolsky, Harold J. Rowe, Noel G. Smith (designated Chairman), MacDonald Wood, and Florence H. B. Yount, appointed by the President, Dr. Smith, as a Special Committee on Narcotics Study to serve the Legislature replacing the initial ad hoc committee whose services are terminated with the filing of its report.

It was moved by Dr. Yount, Jr., seconded by Dr. Dudley, Jr., and unanimously carried that the interim appointment by the President of this Special ad hoc Committee on Narcotics Study, be confirmed.

It was moved by Dr. Beaton, seconded by Dr. Smith and unanimously carried that the Special ad hoc Committee on Study of Narcotics, just ratified, be instructed by the Board of Directors to represent the official stand of the American Medical Association in its meeting and deliberations with the Arizona Legislature.

Pima County Medical Society, through Arthur V. Dudley, Jr., M.D., reports that the first of two recently completed Polio Immunization Programs, conducted June 4, 1961, the second being scheduled for July 16, 1961.

Richard B. Johns, M.D. (Chairman of the Sub-committee on Maternal and Child Health of the Professional Committee), reports immunization schedules have been recently brought up-to-date by the American Academy of Pediatrics' Section on Immunization and Contagious Diseases. A booklet has been published listing the time interval and type of immunizations to be recommenned to the public. A joint immunization committee composed of members of this Association, the State Health Department and the School Health Departments is suggested to be of tremendous value in standardizing the schedule of immunizations given within school districts. Reports accepted and the matter presented by Dr. Johns referred to the Professional Committee for study and report.

Professional Liaison Committee

Reported that the State Advisory Committee for School Health appointed Noel G. Smith, M.D., of Phoenix, as representative of this Association. Received.

National League for Nursing, Inc., seeks publication of its NLN Fellowship Program making available to qualified nurses for leadership positions having superior abilities and leadership qualities to enable them to engage in full time study. Referred to Professional Liaison Committee, Sub-committee on Nurses.

The Maricopa County Board of Supervisors expresses appreciation for the adoption of Resolution No. 15 by the House of Delegates of this Association, April 28, 1961, approving the construction of a new hospital in Maricopa County. Received.

AMA presents recapitulation of its policy in regard to ownership of (1) Pharmacies by Physicians and (2) Pharmaceutical Companies by Physicians. Executive Committee refers this matter to Professional Liaison Committee for information and review. Approved.

Public Relations Committee

Publication "Personal Reporter," recently developed by the Public Relaations Committee with the approval of the President, designed as a media to bring promptly to the attention of the membership matters of special import of which they should have immediate knowledge to keep them abreast of the rapidly changing events dealing with medicine, medical economics, legislation, etc., referred to this Board on recommendation of the Executive Committee, seeking its views as to its value and continuation of publication.

It was moved by Dr. Schwartzmann and seconded by Dr. O'Hare, as was recommended last year, the year before, and the year before by the Professional Committee, that the Public Relations Committee make every attempt to publish media to inform the public of the philosophies in defending medicine, if you want to make it, of attacks on medicine or The Arizona Medical Association, with proper relationship with newspapers in the state rather than this sort of thing.

Dr. Steen: The way your motion reads is that they be urged to look to other forms of public relations. That is a sort of a directive, in a sort of a half-hearted way. You are not telling them they shouldn't do this.

On a "raise of hands", 11 members voted in the affirmative, eight voted in the negative, and three did not vote. Carried.

Scientific Assembly Committee

The Scientific Assembly Committee, as directed by the Board, reported the staggering of the terms of office of its membership composite. James E. Brady, Jr., M.D., of Tucson, was appointed Assistant Chairman for the year 1961-62 and Arthur R. Nelson, M.D., of Phoenix, appointed Secretary, likewise for the term 1961-62. Recommendations:

1. Approved holding the 71st Annual Meeting of the Association at the Safari Hotel, Scottsdale, April 25-28, 1962.

2. Approved designation of the Yavapai Medical Society as "Host" Society of the 71st Annual Meeting, subject to its consent.

3. Approved meeting format submitted including Board of Directors Meeting, Blue Shield Annual Corporation Meeting, Chuck Wagon Dinner, Sessions of the House of Delegates, the

President's Dinner-Dance and Reception, and the Annual Golf Tournament.

4. Approved registration fee of $10.00 and technical exhibit fee of $150.00.

5. Approved Plaque Award for the best scientific exhibit.

6. Approved Guest Orator Gifts to out-of-state participants in the Scientific Section Program at a cost not to exceed $25.00 each.

7. Approved Plaque Award for Best Scientific Paper to include papers submitted specifically for this purpose and/or those comprising articles printed for publication in "Arizona Medicine" journal, and that such award be presented during the President's Dinner-Dance.

8. Approved providing, at Association expense, two hotel rooms to be used by the Women's Auxiliary, one for the accommodation of its "Art and Hobby Show," and the other as a "Hospitality Room"; that any and all accommodations over and above the cost of these two rooms must be assumed by the Auxiliary, including incidentals, etc.; and that all arrangements desired associate with the Annual Meeting involving the Headquarters Hotel facilities be first cleared through and approved by the Central Office.

9. Approved a flat fee of $150.00 for the services of each orator, guest of the Association, to be assessed against and paid by a specialty group utilizing the individual's services during an approved luncheon or dinner meeting, representing the specialty group's contribution towards the total expenses of such guest orator.

10. Approved the full payment of transportation and *ordinary* expenses of guest speakers, and their respective wives, if the latter are in attendance.

11. Approved continuance of Breakfast Panel Discussions.

12. Approved format of Scientific Section of program to follow closely that employed during the 70th Annual Meeting excepting for minor changes.

Arizona Blue Shield Corporation reimburses Association in the sum of $1,410.25 covering its portion of expenses associate with meeting conducted during the 70th Annual Meeting, now concluded.

Arizona Chapter, American College of Surgeons, advises it is not in position to participate in the financing of expenses of Dr. John H. Mulholland, guest orator who particiated in the Scientific Section of the 70th Annual Meeting of this Association and in addition, addressed the Arizona Chapter during a luncheon meeting.

AMA Annual Dues Refund

AMA reports policy referable to refund of one-half AMA dues in the event a member has paid his annual AMA dues and passes away during the first six months of the year, on request therefor through the constituent association. No refund is provided in the event of demise after July 1. One-half the dues formerly paid by Doctors Rew and Ruppenthal, deceased, was refunded.

AMA Congress on Medical Quackery

AMA reports Congress on Medical Quackery to be held jointly with the Federal Food and Drug Administration in Washington, D.C., October 6-7, 1961, at the Sheraton-Park Hotel. It was determined this Association will not participate.

AMA Department of Health Education

AMA reports in the matter of emergency medical identification following conclusion of conference held April 13-14, 1961. The Medic-Alert Foundation sought approval of this Association of its program providing identification to be worn and readily observed under emergency conditions by all those individuals having medical problems which might endanger life or well-being of the individual if not properly recognized and identified during periods of unconsciousness. Received — additional study indicated.

Arizona Blue Cross/Blue Shield

Norman A. Ross, M.D., of Phoenix, expresses displeasure and objections to certain of the content of Bulletin, Vol. 1, No. 2, circulated as a professional relations media of the Arizona Blue Cross/Blue Shield, dealing with service benefits and charges therefor. Executive Committee refers to Professional Liaison Committee. Approved.

Women's Auxiliary — Financial Support

Women's Auxiliary to The Arizona Medical Association expresses its appreciation for the generous financial support contributed through this Association. Received.

Membership Classification Changes

Robert T. Dean, Jr., M.D. (Maricopa County Medical Society), granted Associate membership account "residency training", dues exempt, effective January 1, 1962.

Giles G. Merkel, M.D. (Apache County Medical Society), granted Associate membership account "residency training", retroactive to December 31, 1960, Dr. Merkel being reinstated as a member at the request of the Society, the latter having dropped him from membership as of April, 1961.

Women's Auxiliary — Contribution

The Women's Auxiliary to The Arizona Medical Association presented a contribution to the Benevolent and Loan Fund totaling $554.22, the result of its "Fun in the Sun" drawing. Received, directing that a letter of grateful appreciation be forwarded to the Women's Auxiliary.

AMA Medical Disciplinary Committee Report

The Executive Committee has referred the "Report of the Medical Disciplinary Committee to the Board of Trustees of AMA, June, 1961," to the Grievance Committee for review and comment or recommendation. Approved.

Presidential Visitation to Miami

Due to the lateness of the hour, the President, Dr. Smith, suggested that his report on visitation to Miami (Arizona) be deferred until a later date.

Arizona State Department of Health — Commissioner

Clarence G. Salsbury, M.D., former Commissioner of the Arizona State Department of Health, reports his retirement effective July 1, 1961, and advises his successor is Dr. Lloyd M. Farner. He expressed his appreciation to the Association for its fine cooperation through the years and the hope that the relationship between medicine and the State Department of Health will continue throughout the administration of Dr. Farner. The President previously acknowledged receipt of this notification, wishing Dr. Salsbury well in his retirement.

Medicare Program

The Fourth Annual Report on the Dependents Medical Care Program, issued June 1, 1961, by the Office for Dependents' Medical Care, was received.

Medicare Contract — Supplemental Agreement

Authorized execution of Supplemental Agreement associate with the Medicare Contract in effect providing for an increase in the "Negotiated Claim Rate" from $3.15 per claim to $3.60 per claim, effective March 1, 1961.

Benevolent and Loan Fund Committee

Arthur V. Dudley Jr., M.D., Treasurer, reported the results of meeting of the Benevolent and Loan Fund Committee held this morning. He stated that there was available for loan purposes as of April 30, 1961, a sum of $25,183.92. Following review of applications in hand, the committee approved grants totaling $16,000.00, subject to completion of all requirements and student registration and/or re-registration commencing with the fall term.

The committee further determined to prepare and introduce a resolution for action of the House of Delegates during the 71st Annual Meeting to be held next year, calling for a 50% division of the current AMEF assessment of $10.00 per active member annually, one-half of the total to continue to be forwarded to AMEF and one-half of the total to be retained for the Benevolent and Loan Fund for a period of five years certain, and that there be a re-evaluation of the program at that time.

The report of the Special Study Committee, filed with the AMA House of Delegates in meeting held in Washington, D.C., in December of 1960, was discussed; however, it was determined to await the report of the Arizona Delegates to the AMA House in meeting held June of 1961, in order to determine actions taken by AMA regarding student loan funds.

The committee further directed an investigation of possibilities, if any exist, of local bank institutions loaning money for educational purposes to qualified medical students, this Association underwriting such loans to the extent of co-signer of the requisite promissory or other notes, and what financial requirements of deposits by the Association would be necessary. It is the hope that the Valley National Bank will be in position to evaluate such possibility and advise subsequently.

It was moved by Dr. Smith, seconded by Dr. Singer and unanimously carried that the report submitted in behalf of the Benevolent and Loan Fund Committee be received and as regards the suggestion of the possibility of student loans being granted to qualified medical students direct by a financial institution, possibly the Valley National Bank, the Association becoming a co-endorser of such loan or loans, be explored and a report thereon forwarded to this Board in due course.

Paul L. Singer, M.D.
Secretary

STATEMENT PREPARED FOR INTRODUCTION INTO THE HEARINGS OF THE HOUSE WAYS AND MEANS COMMITTEE, U. S. CONGRESS

The following statement was prepared by Leslie B. Smith, M.D., President of The Arizona Medical Association, Inc., who has been authorized to present the expressed opinions and beliefs of the vast majority of the 1125 doctors of medicine members of our State medical association as they relate to the medical needs of our citizens and their conclusions as to how the best medical care may be provided, with particular reference to our beloved elderly citizens.

The Arizona Medieal Association is of the opinion that the major fallacy of providing medical care for these aged under Title II of the Social Security Act is that it is based on the erroneous assumption that a majority of the aged are unable financially to provide self care, as inferred by H.R. 4222, Section 2, "Findings and Declaration of Purpose".

In Arizona the respective counties are responsible for the care of the indigent sick. Before and following the enactment of Public Law 86-778 (Kerr-Mills) the thoughts and actions of our people, including our doctors, and the legislators were guided by their personal observations and the conclusions reached by Mr. Fen Hildreth — Commissioner of the Department of Public Welfare. The Commissioner recommended that " . . . no medical program for aged non-recipients (OAA) be considered at this time — and that continuing study should be made(3)."

The Commissioner further stated "1. The economic status of the aged is much better than is customarily pictured, with the large majority of our millions of older people able to meet their health care costs without undue difficulty(4)." Continuing to quote — "2. Contrary to popular conception, the majority of our aged are not at any particular time in need of medical care, neither are they sick or disabled(5)." "3. The needs of those who are sick or disabled are being met primarily through private resources, health insurance, and prepayment plans and the voluntary efforts of their families and private citizens working together at the community level(6)."

According to the 1960 census, there are 89,849 persons in Arizona over 65 years of age. 50,195 of these people receive OASDI and therefore would be eligible for the proposed King-Anderson measure medical care benefits if enacted. There are 14,138 OAA recipients in our state, only 4,470 of which receive OASDI; therefore, 9668 known needy would not receive medical aid under H.R. 4222. We realize that the eligibility for OAA is probably too low to use as a basis of determination for eligibility for help in all cases for medical care. If new criteria are established such as a maximum of $2,500 yearly income, $1,000 liquid assets and a home valued at $8,000, it is estimated that 6500 additional of our senior citizens would then qualify for help.

H.R. 4222 would provide care for 50,195 persons, of which only 7,776 are really needy. This means that 42,224 persons — 47% of our total senior citizens, who are capable, without hardship, of providing for their own medical care would be included under this bill, while 12,700 persons who need help would not be covered. We believe that the inclusion of this 47% of our senior ciitizens in a compulsory system which uses tax dollars to provide a service they do not need and possibly do not desire, is unwarranted and contrary to the preservation of their individual dignity.

The Arizona Medical Association is now aiding in the drafting of proposed legislation which would enable the implementation of Public Law 86-778, in Arizona pursuant to a resolution which was unanimously adopted by its House of Delegates, April 28, 1961, — the final resolved of which reads "Resolved, that The Arizona Medical Association through proper agencies within that organization actively and intensively promote the passage of enabling Arizona State Legislation to implement the Kerr-Mills bill benefits for the needy aged of Arizona in the coming legislative session and thereafter as necessary(11)." We are sponsoring this program so that it will be firmly determined whether the elderly people of our State are in need of Federal aid to help provide their medical acre, and if such a need is found to be present we will be able to provide it through the best mechanism; namely, the Kerr-Mills law, which will guarantee that we will be helping those who need help, but that we will not be wasting tax dollars on help for those who are perfectly willing and able to take care of their own health care costs.

Our Association, in its last meeting of the

Chart No. 1

ARIZONA

TOTAL POPULATION — 1,302, 161
Age 65 and Over — 89,849

Item	% of Total Over 65	Number
OASDI Recipients(1)	55.8	50,195
OAA Recipients(1)	15.7 (Nat'l Avg. - 15%)	14,138
OAA Non-eligible for OASDI(1)	10.7	9,668
OAA Eligible for OASDI(1)	4.9	4,470 (31.0% of OAA Rec.)
OASDI and OAA Non-eligibles	7.2	6,500
Needy based on proposed Means Test*		

References: (1) Statistics from Arizona State Department of Welfare
(2) Estimates from Arizona State Department of Welfare
*Own home value $8,000.00; liquid assets up to $1,000.00; and gross annual income less than $2,500.00.

House of Delegates, expressed its stand in a Resolution which ended with "Resolved that The Arizona Medical Association reaffirms its opposition to any pending Federal legislation or any future legislation proposing socialized medicine by way of any blanket and non-individualized medical care plan for the aged 65 and older segment of our population, or any other segment of the American people, and which is not limited to individuals with proven need, demonstrated by way of suitable means tests, and which does not clearly provide for local or state government administration(12."

A recent private non-profit hospital(13) survey in Arizona shows that the elderly citizens in our State do quite well in payment of their medical bills because 90% of all its hospitalized patients over 65 years of age were able to furnish the costs of such care. See Chart No. 2. This is substantiated by a survey in another private non-profit hospital(14) which shows 96% of its patients in the aged citizen group were able to provide the cost of their care.

The bill before us today, H.R. 4222, would, if adopted, alter the basic principle of the Social Security Law, which is to provide cash benefits whereby the recipient is free to use such benefits according to his individual choice and particular needs. This it would do by providing an isolated service benefit without the individual having full freedom of use, when, where or how he may desire. This change in the scope of the principle of the present Social Security System, once established, could be the basis for the expansion which could include not only Federally controlled medical care for all ages, but all services such as housing, food, clothing, etc., with the paternalized government replacing our cherished government by the people.

We believe that medical care should be provided by Government only to those who are not able to secure proper care from their own or other non-federal sources. We insist that it is the sacred duty of all those who were divinely endowed with the sufficient attributes to assume their just obligation of being "their brother's keeper," in those instances where an individual's capabilities or circumstances beyond their control, render them worthy. We also believe that we should not thwart the individual's innate potentialities of developing his own prowess and dignity by compulsory provision of that which would block the expression and enjoyment of his individuality. There is no greater joy than that of self-accomplishment.

It is further our belief that medical care is and will continue to be more efficiently administered at the local level and at the same time such care will be of a higher quality than by any program which shifts the control to a central national level. The medical care needs can best be analyzed and administered at a level which is clos-

Chart No. 2

ST. JOSEPH'S HOSPITAL SURVEY
MARCH 30, 1961
(Covering January, February, March, 1960)

393 — Patients over 65 years of age
92 — Carried Blue Cross
54 — Commercial Insurance
26 — Had relatives pay for them
9 — Paid by Lodge or Fraternal Organizations
12 — Other (Clinic - Charity patients)
4 — No provisions made
46% — Paid by own resource in full
7% — Paid by spouse or relatives
24% — Blue Cross
14% — Commercial Insurances
3% — Paid by Aid to the Blind
4% — Paid by Clinic
.01 — No payment
.46 — Unpaid balances
No Survey Conducted for those under 65 years of age

est to the individual, where his psychological make up and his socio-economic status is intimately known.

It is more fitting and fair to provide service benefits of any need through a general tax as provided by the Kerr-Mills law than by the proposed Social Security tax, which would not only give care to those who are not needy but would do so by disproportionately taxing the younger workers and those who earn the lower incomes.

The number of OAA recipients for those past the age 65 in Arizona is currently 15.7% of the total(16), which compares with the national figure of 15%. The average income of all ages is $1,959.00 in Arizona while the national average income of all ages is $2,163.00(18). The figures pertaining to Arizona in most instances, as those foregoing, approximate those of the national average, hence it may be concluded that the financial status of the aged in Arizona is comparable to the national figures.

The Arizona Medical Association in its Resolution #4, adopted April 28, 1961, Resolved, "that The Arizona Medical Association reaffirms its support of the principle of privately administered, legitimate, voluntary health, accident and disability insurance programs to cover not only the 65 years and older segment of our population, but all segments of our population(19)." At the present time 50% of those past 65 years of age in the U.S.A. have some form of private insurance, 60% of those who need or desire insurance have it, and the number so covered is increasing at a very rapid rate and it is estimated will approach 75% by 1970(20).

This bill, H.R. 4222, has clauses (Prohibition against Interference) which state that it would not — "exercise any supervision or control over the practice of medicine or the manner in which medical services are provided — (would not) exercise any supervision or control over the administration or operations of any such hospital, facility or agency(21)." However, the bill defines standards and regulations for the providers all of which include broad grandfather clauses. Contrary to expressed statements the bill proposes to furnish the services of some specified doctors(22). There are clauses such as, "except as otherwise specifically provided,(21)" — "meets such other conditions of participation under this section as the Secretary may find necessary,(23) "and — "he (the Secretary) may to the extent he deems appropriate." The sections on Agreements, and Payments together with his powers to make regulations, also give the Secretary of the Department of Health, Education and Welfare (HEW) almost unlimited powers to directly and indirectly control virtually all facets of the practice of medicine embraced in this proposed law.

The proper and time honored practice of medicine can only be directed and administered by those who are so educated — the doctor of medicine. They alone are qualified by training to render accurate diagnosis and determine the proper treatment and service to save lives and prevent crippling. Yet in this bill is a provision which would delegate much of this function to a Utilization Committee which need not have but *one* physician member.(24) The powers and scope of the functions of such a committee would be an ominous barrier to the best medical practice.

I have touched only on a few of the many reasons why we doctors of medicine in the great State of Arizona are unalterably opposed to the enactment of the proposed King-Anderson Bill, H.R. 4222. We will continue our dedicated effort to provide the best possible care for our people of all ages and will continue our search for methods for improvement of that care as well as appropriate mechanisms to bring that care to all the citizenry.

Thank you again for this opportunity to present our sincere and well studied views.

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5. Report to the Arizona State Welfare Board by Commissioner, Page 2, Para. 3.
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BENEVOLENT AND LOAN FUND COMMITTEE

July 9, 1961 Meeting

SCHOLARSHIPS AND LOANS

Special Study Committee Report — AMA

The Committee discussed the report of the Special Study Committee filed with the AMA House of Delegates in meeting held in Washington, D.C. in December 1960, and determined to await receipt of the report of the Arizona delegation to the AMA House of Delegates on the meeting held in June, 1961, in New York City, appertaining to AMA actions in regards to student loan funds.

It was moved by Doctor Dudley, seconded by Doctor Baldwin and unanimously carried that when the Committee receives the report of the Association's delegation to AMA, should it appear appropriate, the Committee recommends to its Board of Directors that the services of the Benevolent and Loan Fund Committee be offered to AMA for review and selection of qualified candidates for AMA grants, residing in this area.

House of Delegates — Resolution No. 9 — Medical Student Loans (Voluntary Physicians' Disability and Retirement Plan)

In view of the AMA adoption of a resolution in its meeting held December, 1960, calling for presentation of a completed retirement and disability insurance program for AMA members at the June, 1961, meeting, the Committee determined to await receipt of that report for study and review prior to attempting to initiate such a program on the local level.

EXECUTIVE COMMITTEE ACTION — 12/17/60

Replenishment of Benevolent and Loan Fund — House of Delegates

Folowing much discussion and on review of its previous recommendations and action of the Executive Committee, the Benevolent and Loan Fund Committee determined that it would prepare a resolution to be submitted to the House of Delegates of The Arizona Medical Association, Inc., at its 1962 Annual Meeting calling for a fifty per cent (50%) division of the current AMEF assessment of $10.00 per active member annually, one-half (½) of the total to continue to be forwarded to AMEF, one-half (½) of the total to be retained for the Loan Fund, for a total of five (5) years certain, and that there be a re-evalulation of the program at that time. The motion was made by Doctor Dudley, seconded by Doctor Brown and unanimously carried.

BENEVOLENT AND LOAN FUND CONTRIBUTIONS

Medical Service Contributions

It was determined to request *Arizona Medicine* through the Editor-in-Chief; through ROUND-UP, the official Journal of the Maricopa County Medical Society; and, possibly through the PERSONAL REPORTER of the Public Relations Committee, to publicize the plan of donations to the Benevolent and Loan Fund in the name of the Doctor serving the patient for Blue Shield or other insurance receipts where charges for services are not usually rendered as in the case of professional courtesy being extended.

It was noted that a total of such donations to date were $814.72; $145.50 from Leslie B. Smith, M.D., and Arthur V. Dudley, Jr., M.D., and other donations totaled $669.22, including $554.22 from the Women's Auxiliary to the Arizona Medical Association.

REPORT—BENEVOLENT AND LOAN FUND

Valley National Bank — Trust Fund No. 120-03068

The Committee reviewed a report of the Valley National Bank Trust Department covering statements of Transactions in activity of the account from initiation, February, 1961 through April 30, 1961, and a Statement of Assets as of April 15, 1961. It was noted that the United States Treasury bonds were to be disposed of, the proceeds invested in the Valley National Bank Diversified Common Trust Fund, utilizing a program whereby higher income and some growth may be obtained while maintaining a substantial security and liquidity.

It was noted specifically that the Diversified Common Trust Fund is sufficiently liquid to permit use of the funds for student loans, as may be dictated by the Committee.

Financial Status Report — Central Office

The Committee received for its information a report of the Central Office indicating among other things, the following financial position of

the Benevolent and Loan Fund.

1. Initial funds for disbursement	$43,105.39
2. Thirteen (13) loans previously expended	17,400.00
3. Interest to date	465.23
4. Available for loan purposes as of 4/30/61	25,183.92

REVIEW OF APPLICATIONS FOR LOANS

Preceding review of individual applications for loans, the Committee in general discussion agreed, that the maintenance of a balance of funds approximating $1,500.00 annually for each original loan recipient to complete medical school was unnecessary, the important item being the applicant's initial matriculation to an accredited medical school of record, the general consensus being that the school or its dean would immeasurably assist the qualified student in locating funds for continuation of his medical education.

OTHER BUSINESS

Investigation — Bank Loans to Medical Students on ARMA Co-signature

The Committee requested the Central Office to investigate the details of what possibility, if any exists, that local banking institutions may be in position to loan money for educational purposes to qualified medical students, The Arizona Medical Association, Inc. underwriting the loan to the extent of a co-signer of the requisite promissory or other notes, and what financial requirements of deposit by the Association would be necessary.

It is the hope of the Committee that such information may be available through the Valley National Bank prior to its next meeting.

Scholastic Standing of Previous Loan Recipients

The Committee noting that some of the loan recipients of prior authorization, not yet scheduled to complete a full course of medical education and not requesting additional funds for such purpose, directed that investigations be instituted to determine whether or not such loan recipients continue in medical school study, their standings therein and if it is found that any are not progressively continuing such course of medical education, that processes of collection of funds due The Arizona Medical Association be instituted.

Benevolent & Loan Fund Receipts — Transfer to V.N.B. Trust

It was moved by Doctor Baldwin, seconded by Doctor Brown and unanimously carried that current receipts, contributions, etc. to the Benevolent and Loan Fund, now on deposit in the general funds of the Association, and totaling $814.72, be transferred to the Benevolent and Loan Fund Trust #120-03068, of the Valley National Bank Trust Department, for inclusion therein.

Paul L. Singer, M.D.

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Case history courtesy of Joel Goldman, M.D., Johnstown, Pa.
These photographs of Dr. Goldman's patient were taken on November 10, 1960.

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STUDY 3 *Weissberg, G.: Clin. Med. 7:1161, 1960.*

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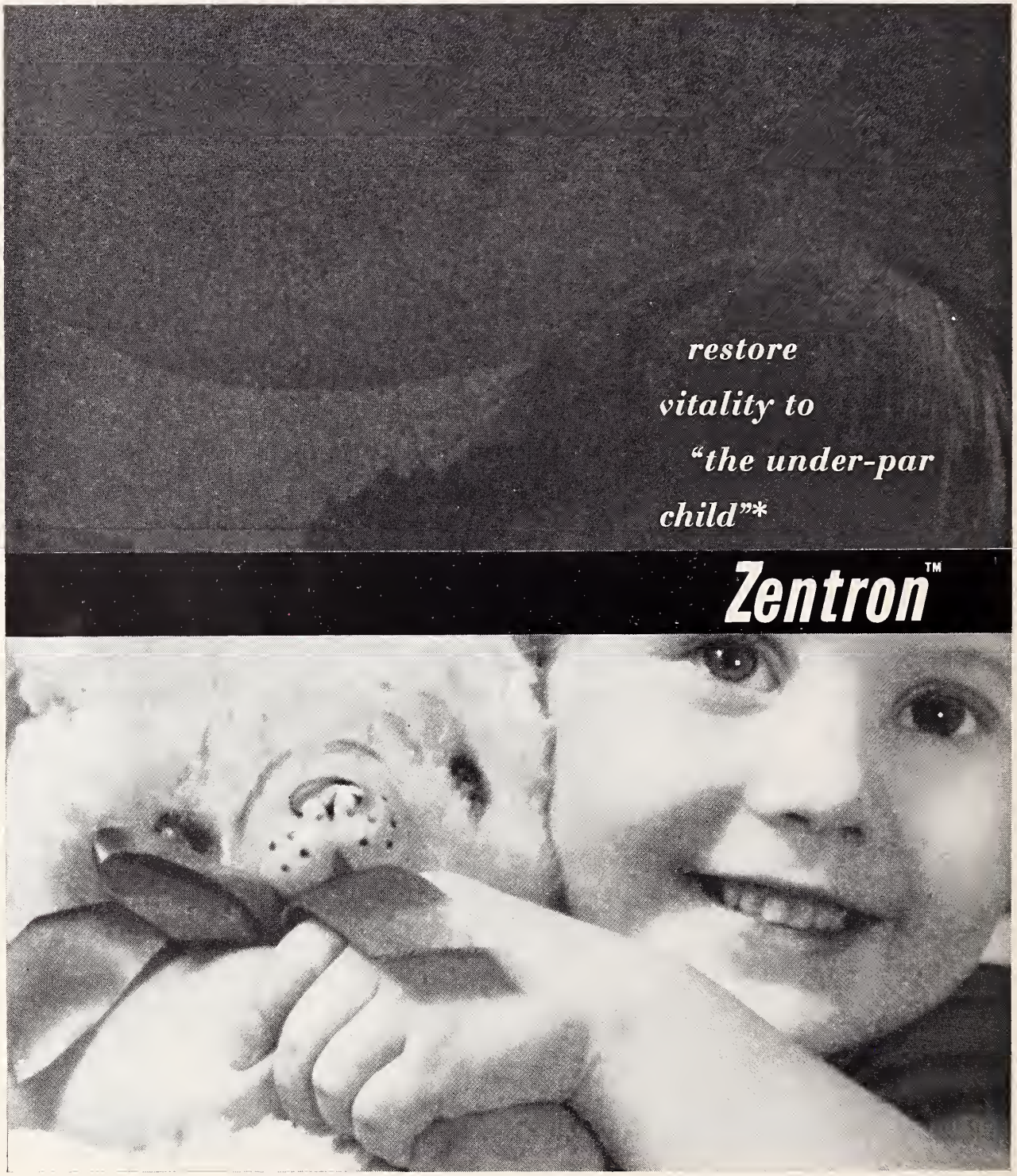
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Vol. 18, No. 10 October, 1961

Radioiodide Treatment of Hyperthyroidism It's Use in Areas Remote From Medical Centers

Robert E. Flynn, M.D.
James J. Riordan, M.D.

In curing 43 of 44 patients suffering from hyperthyroidism secondary to diffuse hyperplasia, we believe that a radiosotope facility serves a valuable purpose in the rural, non-affiliated type of hospital.

SINCE THE introduction of radioactive iodide in the treatment of hyperthyroidism in 1941, this mode of therapy has become well established in the metropolitan areas and in the larger medical centers. However, because of the rigid controls on the distribution and utilization of radioactive by-products imposed by the Atomic Energy Commission and, because of a certain special training and experience requirements for licensure, utilization of the isotope has been somewhat delayed in the areas remote from medical centers.

A radioisotope facility was initiated in the Department of Radiology at St. Joseph's Hospital in Phoenix in 1955 and we would like to record our experience with the use of radioactive iodide in the treatment of hyperthyroidism and to correlate our results with those obtained at the larger medical centers.

In the six years from 1955 thru 1960, we treated 62 cases of hyperthyroidism, virtually all of which were secondary to diffuse hyperplasia. To illustrate the growth of our activity in this field, we treated two patients in 1955, five in 1956, nine in 1957, seventeen in 1958, thirteen in 1959 and sixteen in 1960. Fifty-two of the patients were women and nine were men. Age group was as follows:

10 to 19 years — 1
20 to 29 years — 3
30 to 39 years — 14
40 to 49 years — 20
50 to 59 years — 14
60 to 69 years — 8
70 to 79 years — 1
80 to 89 years — 1

Seventy-seven per cent of our patients fell within the age group of 30 to 59 years and 70 per cent over 40 years.

It is of interest to note the source of referral of patients to our department. Thirty-one per cent came from the general practice group, 58 per cent from the internist and 11 per cent from the surgeon.

In regard to previous treatment, 17 patients or 28 per cent had been treated with anti-thyroid drug therapy; 13 patients or 21 per cent had had previous subtotal thryroidectomy, nine of the patients having had surgery once and four patients having had repeat subtotal procedure.

We patterned our mode of treatment after that of Beierwaltes, et al., (1) using the single dose technique. This is in opposition to the multiple small dose technique advocated by others (3). We do not have the facilities for storage of large amounts of the isotope nor is it economically feasible to maintain large amounts of radioiodide on hand due to our small volume. Our

standard dosage is 10 millicuries. To this we add or subtract 1, 2 or 3 millicuries depending upon the size of the gland and the per cent of uptake. An average size gland and average uptake in the hyperthyroid range would receive 10 millicuries. A patient with a larger gland but with a smaller uptake would receive 13 millicuries.

We have treated 62 patients since the beginning of our laboratory and 55 of these or 89 per cent responded satisfactorily to one dose. Six patients or 9.7 per cent required the administration of a second dose. One patient or 1.3 per cent received three treatment doses, a total of 40 millicuries of radioactive iodide over a period of 19 months and subsequently was subjected to surgical thyroidectomy because of failure of the radioiodide to produce a euthyroid state. This represents our only failure with radioiodide. Six of the seven patients requiring a second dose did so in less than five months following the initial dose. Since all but one of the cases either responded or were retreated within six months, we feel that we are justified in considering our results based on cases which we have followed for at least six months. Hence, we will be concerned with those patients treated prior to June 30, 1960. Of 53 patients treated prior to June 30, 1960, nine have been lost for follow-up so that the results of 44 can be reported. Of the 44 cases, 43 or 97.5 per cent were cured of their toxicity. One case or 2.5 per cent remained toxic.

Of the 43 patients who were relieved of their toxicity, 28 or 65 per cent are in the euthyroid state. Fifteen or 35 per cent became hypothyroid and are being maintained on replacement therapy. It appears that in our series we have a higher per cent of patients becoming hypothyroid than has been reported in larger series. However, we do not feel that permanent myxedema is a great tragedy as the patients are well maintained on replacement therapy.

Our results are somewhat better in the nonoperated than in previously operated patients. Of 31 nonoperated patients, 24 or 77.5 per cent are euthyroid and 7 or only 22.5 per cent are hypothyroid.

The opposite result exists in the case of those patients having previously had subtotal thyroidectomy. Of 12 patients, 4 or 33.3 per cent are now euthyroid and 8 or 66.7 per cent are hypothyroid and require replacement therapy. It appears that we were in error in regard to the dosage given the previously operated patients and our plan in the future is to adjust the dosage to a lower level.

An interesting corollary is a report of the results of radioiodide therapy in patients who had been treated with anti-thyroid drugs. Fourteen patients are in this class and 13 or 93 per cent were rendered euthyroid. One or only 7 per cent was made hypothyroid. From this, one might suggest that the patients be routinely prepared with anti-thyroid medication prior to radioiodide treatment. However, anti-thyroid drug therapy is not innocuous. Three of the patients had an untoward reaction to propylthiouracil. One of these was an agranulocytosis which almost proved fatal. For this reason, we do not advocate routine preparation with anti-thyroid drugs.

In our series of 62 cases, we have not had a fatality. We have not had a patient develop thyroid crisis, tetany or vocal cord paralysis. No patient has developed radiation thyroiditis. There is an irregular period of delay between the time the treatment dose is administered and the full therapeutic effect is evident. This varies with patients and ranges between three to six weeks. Persistence of the toxic state during this time may be described as morbidity; however, most of our patients tolerate this quite well. The more toxic patients are given Tugal's solution beginning four days after the theraputic dose of radioiodide is administered and this is continued for four weeks.

Indications for treatment with radioiodide (1-5) and the hazards of radiation have been adequately discussed by others(2-4).

We are of the opinion that there is a very definite place for the establishment of a radioiodide facility in the so-called rural non-affiliated hospitals. Although our series is relatively small compared with the larger clinics, our results are as good as and, in some cases, better percentagewise than those of the larger institutions(3-6).

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Gastric Resections — St. Joseph's Hospital, 1953-1959

E. Payne Palmer, Jr., M.D., F.A.C.S.

This paper on gastric resections at St. Joseph's Hospital covering the two periods 1940-1952 and 1952 to date is an analysis that we should make more frequently in all of our hospitals of this State, not only in regard to gastric resections but other major procedures. These reviews should include a critical analysis of our morbidity, mortality and end results with the thought in mind that many of our now accepted procedures deserve re-evaluation.

A PAPER presented by the author at a regular staff meeting at St. Joseph's Hospital, Nov. 9, 1953, reviewing 194 cases of gastric resections performed at St. Joseph's Hospital from Jan. 1, 1950, through Dec. 31, 1952, stated that recent advances in medical and surgical practice had drastically reduced the mortality and morbidity rates associated with surgery of the gastrointestinal tract. It was also stated that the use of antibiotics, the better understanding of electrolyte imbalance, improved pre- and post-operative care, improved anesthesia and early ambulation had all been responsible for this reduction. That statement today is even truer than it was in 1953. In 1953 the accepted surgical treatment for peptic ulcer disease was gastric resection.

Sub-total gastrectomy(58) is, in all probability, numerically the most frequently used procedure today although its popularity is beginning to lag behind the combined vagotomy-antrectomy and vagotomy-plus-drainage (pyloroplasty) procedures. The major disadvantage is the unavoidably rather high incidences of incomplete vagotomy with an ulcer recurrence rate of approximately 6 to 10 per cent throughout the country.

A review of recent literature dealing with surgical management of peptic ulcer disease presents certain difficulties from a comparative standpoint. Many report operative or hospital mortality, yet few present adequate data about morbidity. Because of the rather uniformly reported low mortality rate, a significant basis for evaluation of a procedure would be found in a study of the post-operative morbidity and the late sequela of the procedure.

It is my purpose in presenting this paper to review all the gastrectomies performed at St. Joseph's Hospital from January 1, 1953, through December 31, 1959. St. Joseph's is, in all probability, a busy, typical, private hospital in a large-sized community, staffed by competent, average, or above-average surgeons. Our records then should be comparable with like records from similar hospitals throughout the country.

Presented at Staff Meeting — St. Joseph's Hospital, Phoenix, Ariz., July 1960.

GENERAL DATA

From Jan. 1, 1953, through Dec. 31, 1959, 397 cases of sub-total or total gastric resections for various pathological lesions were performed at St. Joseph's Hospital. In the years 1940 through 1952, only 194 cases were performed at St. Joseph's Hospital, thus showing a marked increase in the number of gastrectomies performed.

Thirty-five different surgical staff members performed these 397 cases. Of these 35 surgeons operating, two groups (two surgeons in each group) had 50 or more cases, two groups 30 or more, two surgeons 30 or more each, one surgeon 20 or more, three surgeons 15 or more, five surgeons 4 or more, six surgeons 2 each, eight surgeons 1 each.

Of the 397 cases there were 258 men (67.5 per cent) and 139 women (32.5 per cent). This distribution and percentage correspond with figures reviewed throughout the entire country. The patients' ages ranged from 19 (one case who had a sub-total gastrectomy with cholecystectomy and splenectomy) to 70 or over (11 cases). Almost two-thirds of all the cases were in the 40 to 60 age group. These figures also correspond with the literature reviewed.

TABLE I

Ages by Decades

19 & under	20-29	30-39	40-49	50-59	60-69	70 & over
1	13	64	139	105	64	11

NUMBER OF CASES PER YEAR

It is interesting to note the gradual increase in the number of gastrectomies from 1953 until 1957, at which time a peak was reached, and then again in 1958 and 1959 when there was a decline in the number of cases, although in 1958 and 1959 the number of cases was exactly the same. It is also interesting to note that the number of cases performed from 1940 to 1952, one hundred and ninety-four, increased over 100 per cent (397 cases) from 1953 to 1959.

TABLE II

Number of Cases per Year

Year	No. Cases	No. Deaths
1953	36	0
1954	38	4
1955	52	2
1956	59	2
1957	82	3
1958	65	2
1959	65	2
	397	15

SYMPTOMS

The symptoms presented by this group of 397 cases are shown in Table III. They are again indicative of the high incidence of complications of peptic ulcer which led to surgery as the treatment of choice. Pain was usually the first symptom complained of, occurring in 307 cases (79 per cent.) The complaint of pain was closely associated with nausea, vomiting, hemorrhage and dyspepsia followed by obstruction and weight loss. The symptoms presented in this series again correspond almost exactly to those reported in the literature during the past seven years. The average duration of symptoms before gastrectomy was 7.3 years in 1940 to 1952, and 8.2 years in 1953 through 1959, an increase of almost one year.

TABLE III

Symptoms

Pain	307
Nausea	147
Vomiting	191
Hemorrhage (Hematemesis and/or Melena)	164
Obstruction	26
Dyspepsia	179
Wt. Loss	65

PREVIOUS OPERATIONS

Fifty-six (10.4 per cent) of the patients presented had previously had surgery for the symptoms or complications of peptic ulcer.

Twenty-five cases (6 per cent) had had previous surgery for the repair of peptic ulcer perforation. Twelve cases (3 per cent) had had previous sub-total gastrectomies.

TABLE IV

Previous Operations

Subtotal Gastrectomy	12
Perforations	25
Gastroenterostomy — Vagotomy	9
Cholestectomy (without relief)	2
Choledochostomy	1
Segmental Resection	1
Pyloroplasty	1
Gastroenterostomy	5

X-RAY DIAGNOSIS COMPARED WITH PATHOLOGICAL DISTRIBUTION OF LESIONS

It will be noted that the pre-operative x-ray diagnosis corresponds very closely with the pathological distribution of lesions except for duodenal ulcer. A total of 380 pre-operative x-ray diagnosis were made. There were 17 of the surgical records which had no record of any pre-operative x-ray work-up. This undoubtedly was due to inadequate histories and admission notes.

TABLE V

X-Ray Diagnosis Compared with Pathological Distribution of Lesions

	X-Ray Diagnosis	Path. Dist. of Lesions
Duodenal ulcer	243	70
Gastric ulcer	61	63
Carcinoma	19	18
Pyloric ulcer	7	18
Pyloric stenosis	22	13
Marginal ulcer	15	14
Normal	9	0
Cholecystitis	3	0
Esophageal ulcer	1	0
Chronic gastritis	0	184
	380	380

INDICATIONS AND PRE-OPERATIVE DIAGNOSIS

The indications for elective and emergency surgery for this group of patients again follow almost to the letter, with only several marked exceptions as noted in Table VI, the classical text book picture and recommendations by the leading surgeons, internists and surgical clinics of this country. Practically all of the cases studied had been well worked up and had had long and adequate medical treatment. The pre-operative diagnosis closely corresponded to the pathological distributions of the lesions as reported by the pathologists except in the duodenal ulcer cases. There were 260 cases in which a pre-operative diagnosis of duodenal ulcer was made, but only 74 cases of duodenal ulcer were reported by the pathologists. This, undoubtedly, was due to the difficulties encountered and the danger ensuing from an attempt to remove the ulcer. In all these cases the stump was plicated, and the ulcer left intact.

TABLE VI

Pre-operative Diagnosis

Duodenal ulcer	260
Gastric ulcer	63
Carcinoma	22
Pyloric ulcer	6
Marginal ulcer	22
Pyloric stenosis	16
Chronic gastritis	3
Cholecystitis	3
Chronic pancreatitis	1
Esophageal ulcer	1

PATHOLOGICAL DISTRIBUTION OF LESIONS

The pathological distribution of lesions, as stated before, followed very closely the pre-operative diagnosis with the exception of the duodenal ulcer group. This group alone accounted for practically all of the chronic gastritis lesions as reported by the pathologists. It is interesting to note that there were 63 cases of pre-operative diagnosis of gastric ulcer and 65 cases of gastric ulcer reported by the pathologists, also that there were 22 cases of pre-operative diagnosis of carcinoma and 18 found by the pathologists. This close correspondence of pre-operative diagnosis to pathological distribution of lesions is, I think, an excellent record.

TABLE VII

Pathological Distributions of Lesions

Duodenal ulcer	74
Gastric ulcer	65
Carcinoma	18
Pyloric ulcer	17
Marginal ulcer	14
Pyloric stenosis	25
Gastro-duodenal ulcer	1
Gastro-jejunal ulcer	1
Chronic gastritis	182
	397

POST-OPERATIVE DEATHS

There were 15 deaths following gastric resection in these 397 cases, a mortality rate of 3.75 per cent. In the 194 cases previously reported from 1940 through 1952, there were 18 deaths, a mortality rate of 9.03 per cent. This marked reduction in mortality rate is a record of which this hospital can be justifiably proud. The mortality rate as reported is comparable to or better than those reported throughout the entire country. The overall mortality rate as reported throughout the country ranges from 1.7 per cent for 449 cases(38) to 2.4 per cent for 269 cases(22)

to 4 per cent for 480 cases(13) to 4.3 per cent for 2562 cases(65). Of the 15 deaths reported, the youngest patient was 44 years of age and the oldest 74 years of age. It is interesting to note that there were 14 males and 1 female in the 15 deaths reported. The shortest post-operative time of death was 1 hour (post-operative shock) and the longest was 44 days (carcinoma of the pancreas). Ten of the 15 deaths were in the 60-or-over age group.

TABLE VIII

Year	Age	Sex	P.O. Day of Death	Cause of Death
1953	0	0	0	Carcinoma of pancreas Lower nephron nephrosis
1954	60	M	44	Acute pancreatitis
	58	M	40	Pseudomembranous enterocolitis
	64	M	8	Hepatic necrosis — Acute myocardial infarct
	44	M	35	P.O. shock
1955	70	M	8	Pulmonary embolism
	65	M	1 hr.	Rupture gastrojejunostomy suture line — Peritonitis
1956	59	M	12	
	53	M	17	Myocardial infarction
1957	62	M	6	Hemorrhagic diathesis
	72	F	2	Lower nephron nephrosis
	69	M	5	Intestinal obstruction — Suppurative bronchopneumonia
1958	54	M	17	
	68	M	10	Cardiac myopathy — Peritonitis
1959	74	M	4	Pulmonary embolism
	69	M	12	Hemorrhagic gastric enteritis

MAJOR NON-FATAL COMPLICATIONS & MORBIDITY RATE

The average length of hospitalization for the 397 cases studied was 14.8 hospital days. The average length of hospitalization for the 194 cases studied during the previous 12-year period was 18.02 days. This average length of hospitalization is for those cases who did not develop post-operative complications. In this series of cases there were 31 patients who developed major non-fatal complications. The average length of hospitalization for these cases was 36 days. During the previous 12-year period, there were nine cases of non-fatal complications, a percentage of 4.6. The 31 cases developing major non-fatal complications during the present study comprised a percentage of 7.7. In my judgment, this is an extremely high percentage of major non-fatal complications although a careful review of the literature during the past eight years fails to find any specific mention of morbidity rates except for one series of 269 cases(22) in which the length of hospitalization for non-fatal complications was 36.8 days. The only things mentioned are that the morbidity rates with vagotomy and drainage procedures are much less than with gastrectomies. Practically all of these cases of major non-fatal complications were subjected to one or more surgical procedures following their gastrectomies. It is interesting to note that there were seven cases of subphrenic abscess and five cases of duodenal stump leak. With careful plication of the duodenal stump and the anastomosis, these complications should definitely be avoidable.

TYPES OF OPERATIVE PROCEDURES

It will be noted in Table X that there were 333 cases of sub-total gastrectomies performed without other procedures. The Billroth II procedure was, by far, the most popularly employed although many surgeons do not mention which type of procedure they used when dictating their operative reports. There were two total gastrectomies performed, 1 for Ca and 1 for multiple ulcers. There were 49 sub-total gastrectomies with vagotomies, 6 emergency gastrectomies for massive hemorrhage, and 1 emergency gastrectomy for rupture. It should also be noted that there were 6 splenectomies performed with the sub-total gastrectomies. All 6 of these splenectomies were performed because of operative lacerations of the spleen. During the period of this study, there were 47 cases of vagotomy with gastrojejunostomy, 8 cases of vagotomy with pyloroplasty, and 8 cases of gastroduodenostomy with vagotomy performed at St. Joseph's Hospital. These cases are not included in this present study.

TABLE IX

Major Non-Fatal Complications

Sex	Hospital Days	Complications
M	59	Incisional hernia — Subphrenic abscess
M	17	Dehiscence — Peritonitis
M	30	Intestinal obstruction
F	35	Ileus — Peritonitis
M	68	Subphrenic abscess — Abdominal abscess — Empyema, chest
M	33	P.O. hemorrhage
M	35	Subphrenic abscess
F	39	P.O. hemorrhage
M	38	Obstruction — Anastomosis
M	24	Obstruction — Anastomosis
M	17	Dehiscence
M	30	Paralytic ileus — Peritonitis
F	44	Drainage duodenal stump with abscess
M	28	Intestinal obstruction
M	21	Duodenal fistula
M	49	Peritonitis
M	36	Abdominal abscess
M	43	Wound dehiscence — Pneumonia
M	60	Pseudo-membranous enterocolitis
F	24	Bilateral thrombophlebitis
F	30	Subphrenic abscess
M	36	Subphrenic abscess
M	29	Subphrenic abscess — P.O. Hemorrhage spleen
M	32	Hepatic fistula
M	29	Dehiscence — Duodenal fistula
M	17	Duodenal stump leak
M	34	P.O. Hemorrhage — Dehiscence — Duodenal stump leak
M	75	Atelectasis — Pleural effusion — Subphrenic abscess
M	35	P.O. Obstruction
F	33	Empyema, chest — Resection
M	38	Pulmonary infarct

DISCUSSION

A review of 397 gastrectomies performed at St. Joseph's Hospital from 1953 through 1959 has been presented. There were 15 post-operative deaths, a mortality rate of 3.75 per cent, which corresponds very favorably to the rates reported throughout the country. A previous study of gastrectomies, 1940 through 1952, 197 cases, brings the total study for the past 20 years to 591 cases. The mortality rate, 18 cases, of the previous report, was 9.03 per cent. The mortality rate for the entire 20-year review is 5.54 per cent. In 2,562(65) elective operations performed by 432 surgeons throughout the country the mortality rate was 4.3 per cent. It is significant that the mortality rate for this group of cases is 4.9 per cent for those operations associated with gastric resection, (about 80 per cent of all operations); whereas, it is only 1.7 per cent for all those lesser procedures. Mortality from gastrointestinal surgery has been sharply decreased during the past three decades primarily because of advances in such ancillary fields as scientifically selected and administered anaesthesia and accurate fluid and

TABLE X

No. Cases	Types of Operative Procedures
6	Emergency gastrectomies for hemorrhage
1	Emergency gastrectomies for rupture
49	Sub-total gastrectomies with vagotomy
8	Sub-total gastrectomies with cholecystectomy
5	Sub-total gastrectomies with splenectomy
1	Sub-total gastrectomies with cholecystectomy & splenectomy
1	Sub-total gastrectomies with splenectomy & pancreatectomy
1	Sub-total gastrectomies with diaphragmatic hernia repair
2	Total gastrectomies (1 carcinoma & 1 multiple ulcers)
333	Sub-total gastrectomies
397	

electrolyte and blood replacement.

When we consider the fact that 35 surgeons performed these 397 operations, I think we can say that our over-all results are as good as or better than those reported except for the morbidity rate. A study of the latter should evoke serious thought.

The indications for surgery, both elective and emergency, the sex and ages of the patients, the pre-operative diagnoses, both clinical and x-ray, and the correspondent pathological distribution of lesions correspond to those reported throughout the entire country. The great majority of cases reviewed were well worked up and showed that all had adequate medical treatment before being subjected to elective surgery.

It is becoming more and more apparent from reviewing the literature to the present time that the(58) popularity of sub-total gastrectomy is beginning to lag behind the combined vagotomy and antrectomy and vagotomy-plus-drainage (pyloroplasty) procedures. In one series of 400 cases(24) reported of vagotomy and pyloroplasty, there was one death, a mortality rate of 0.5 per cent. Another series of 750 cases(67) of the same procedure also reported a mortality rate of 0.5 per cent. Another series of 50 cases(54) in which vagotomy and antrectomy were employed there were no deaths. Vagotomy and pyloroplasty and one-stage transfixion ligation is also being used for emergency surgery for hemorrhage from peptic ulcer disease with excellent results. Forty-eight cases(47) so reported showed no mortality. Emergency gastrectomies performed for hemorrhage show an average mortality rate of 5.9 per cent to 25 per cent. In our own series of 6 cases of emergency gastrectomy performed for hemorrhage, there were 3 deaths, a mortality rate of 50 per cent. The initial hemorrhage from a duodenal ulcer, regardless of the age of the patient, is probably more dangerous than is appreciated. The old adage of "operate over 50" does not seem to apply. Arteriosclerosis may be more severe in some person 35 years of age than in others who are 60. In addition, for every 2 patients past 50 who succumb from initial hemorrhage, there is one younger who also dies. Of more significance, the risk of hemorrhage is the same at all ages. Forty-five per cent will die, have other hemorrhages, or have operations within five years. A realization of these facts will allow surgical treatment to be offered to those patients with the same assurance and conviction as that offered to patients suffering from a ruptured spleen or a ruptured ectopic pregnancy. It is interesting to note that in one series of 70(32) cases reported with massive hemorrhage from ulcer disease 72 per cent significantly followed ingestion of salicylic compounds.

The most important problem in the diagnosis of gastric ulcer today is the differentiation of the benign from the malignant form. With a salvage rate of no more than 2(9) to 5 per cent in gastric cancer, it is essential that every means be used in the differentiation of benign from malignant lesions, gastroscopic, x-ray and gastric aspiration. The usual present treatment of gastric ulcer is unsatisfactory (partial gastrectomy). Ninety-three and three-tenths(16) per cent of gastric ulcers are benign. The internist, then, has the primary responsibility in deciding on the course of treatment. By careful management on his part, perhaps the morbidity from unnecessary gastric resection, the high incidence of unfavorable sequela, and the mortality rate from gastric resection can be reduced.

For peptic ulcer disease, especially the chronic duodenal ulcer, no single perfect operation exists; but until such surgery may appear, it seems best, to me, generally, to follow a relatively safe procedure. Vagotomy with a drainage procedure may result in somewhat higher recurrences of ulcerations; but too little attention has been paid in the past to the weight loss, malnutrition, morbidity and fatality that may follow gastric surgery. In any case, radical sub-total resection is being seriously challenged by the combined procedures of vagotomy and antral resection, and vagotomy and drainage procedure, which seem to have done better in controlling complications of duodenal ulcer.

A higher recurrence rate is one of the reasons why surgeons have not more frequently used vagotomy with a drainage procedure, especially vagotomy with gastroenterostomy. The latter is especially true; only 81 per cent of patients(17) on whom this procedure has been employed had satisfactory results.(65) Another reason is that

many able surgeons have not bothered to master the technical details of the performance of a good subdiaphragmatic vagotomy. At least 10 per cent or more of all attempted vagotomies are inadequate.

The average length of hospitalization has been lowered from 18.02 days (1940-1952) to 14.8 days (1953-1959) except for those cases of non-fatal major complications. In the latter, 31 cases, the average length of hospitalization was 36 days.

In a study such as this, 397 gastrectomies performed by 35 different surgeons, it is felt that the only data lacking is a follow-up as to the sequela and over-all satisfactory results of these gastrectomies. Of course, a follow-up of so many private patients under the care of so many surgeons is next to impossible.

SUMMARY

1. A review of three hundred and ninety-seven (397) gastrectomies from the surgical records of St. Joseph's Hospital, 1953 through 1959, has been presented.

2. Five hundred and ninety-one (591) cases of gastrectomies (1940-1952, 1953-1959) have now been reviewed.

3. Mortality rate was 3.75 per cent, 1953-1959, compared with a mortality rate of 9.03 per cent, 1940-1952. The mortality rate for the 20 year period was 5.58 per cent.

4. The morbidity rate was 7.7 per cent. The average length of hospitalization for these cases was 36 days.

5. The average length of hospitalization for non-complicated cases was 14.8 days as compared to 18.02 days for the period, 1940-1952.

6. Thirty-five surgeons performed these 397 cases as compared to 20 surgeons performing 194 cases, (1940-1952).

7. Sub-total gastrectomy without other procedures was the most popular type of surgery performed, (333 cases). There has been a marked increase in the number of gastrectomies with vagotomies during the past several years.

8. Radical sub-total resection is being seriously challenged by vagotomy and antrectomy, and vagotomy and drainage procedures.

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UROLOGY AWARD

The American Urological Association offers an annual award of $1,000 (first prize of $500, second prize $300, and third prize $200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to Urologists who have been graduated not more than ten years, and to hospital interns and residents doing clinical or laboratory research work in Urology. Animal research is not necessary.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Bellevue-Stratford Hotel, Philadelphia, Pennsylvania, May 14-17, 1962.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore 1, Maryland. Essays must be in his hands before November 15, 1961.

What to remember — What has been accomplished and what is still to be done about Chemical Warfare (CW) and Biological Warfare (BW) Defense

Charles W. Steele, M.D.

The basic principles to remember concerning Biological and Chemical Warfare are outlined.

Specific accomplishments in our defense efforts against Biological and Chemical Warfare agents to date are enumerated.

The many things that still remain to be done before we have an adequate non-military defense against Biological and Chemical Warfare attacks are discussed in specific detail.

YOU HAVE just heard a masterful presentation by such experts as Colonel Victor C. Searle, U. S. Army Chemical Corps, on the capabilities of chemical weapons(1) and by Dr. LeRoy D. Fothergill on the grim possibilities which could result from biological agents.(2) The medical problems that would be created should BW and CW be used against us have been discussed in their essential detail by the third speaker, Colonel Dan Crozier, MC, U.S. Army.(3) At this point it might be helpful to review quickly this wealth of material as presented with a view to determining what we should remember, what has been accomplished, and what defenses still must be developed in order to provide the civilians of this country of ours with a BW and CW defense adequate to insure our national survival.

On April 8, 1960, Clifford F. Rassweiler, Vice President for Research and Development, Johns-Manville Corporation, New York, New York, delivered a masterful and stimulating paper entitled "What We Must Remember and What We Must Do" at the Symposium on Non-military Defense, 'Chemical and Biological Defense in Perspective', 137th National Meeting, American Chemical Society, Cleveland, Ohio, April 5-14, 1960.(4) This paper is available from the American Chemical Society and should be read by every person at this meeting. Certain features of the material covered are still timely and germane, and will be referred to when appropriate in the presentation which is to follow.

First, it should be recognized and understood from the previous presentations made today that the development of major chemical and biological warfare offensive potentials is well within the capabilities of small and relatively weak enemy nations. Small groups of unscrupulous chemists or bacteriologists could produce major quantites of biological agents and procure the

Presented at the Ninth Annual United States Civil Defense Council Conference, Medical-Health Section, Minneapolis, Minnesota, 21 September 1960.

Member, Medical-Health Committee, United States Civil Defense Council.

Member, Committee on Disaster Medical Care, American Medical Association.

Chairman, Committee on Disaster Medical Care, Maine Medical Association.

weapon systems for their delivery with limited financial outlay, and with small industrial installations. They could even accomplish this with stolen bacterial and virus cultures smuggled out of this or some other country.

It should further be remembered that it will be very difficult, if not completely impossible, to detect the manufacture, storage, transportation or the delivery of particular biological agents. At the present time there would seem to be no effective world-wide system of inspection or policing of nations by any international body which would have even a remote chance of detecting the manufacture, stockpiling, or transportation of biological warfare agents and of certain toxic chemicals.

Another point which must be recognized is that most biological agents, and certainly some chemical warfare agents, can be spread by means that would make identification of the aggressor power most difficult. Saboteurs and enemy agents could easily spread biological materials effectively against critical military and civilian targets with little chance of detection.

Thus, it is easy to see that biological warfare agents form an ideal means for international blackmail. In fact, within a few years it may be possible for an unscrupulous and irresponsible dictator to purchase or locally produce from relatively modest sums of money enough biologicals to destroy us or to bring us to submission by threat of their use if we continue, because of inadequate protection, to leave ourselves vulnerable to attack by such agents. Without even the minimal protection of adequate respirators (gas masks) for our civil population, we are at present virtually helpless should either biological or chemical warfare be waged against us.

Furthermore, we must recognize and accept as fact that our enemies will use chemical and biological agents against us if we are unprotected and if it will be to their advantage. The leaders of many nations are extremely ruthless and would have no moral or humane scruples about using any means to win world domination. *The American people must somehow be made to recognize and remember these basic facts about world communism.*

Under these circumstances we must recognize that it is humane and morally right to provide our families and our fellow countrymen with protection against both the lethal threat or the devastating incapacitation that could result should either chemical or biological agents be spread across our land. Should these new weapons be used against us the entire population within thousands of square miles would feel the devastating effects unless they are provided with adequate personal protection and suitable early-warning devices.

Speakers at the Symposium on Non-military Defense, 'Chemical and Biological in Perspective', given on April 8, 1960, at Cleveland, Ohio, at the 137th National Meeting of the American Chemical Society,(4) and the authors of previously presented papers at this meeting of the United States Civil Defense Council,(1,2,3,) have adequately pointed out that chemical and biological warfare agents could kill, or disable for long periods of time, as many civilians as could a nuclear bomb. The first chart on "Relative Effects of CBR Weapons," as prepared by the American Chemical Society's Committee on Civil Defense, was published in "Number 26 of the Advances in Chemistry Series" printed in July, 1960.(4)

Some questions have subsequently been raised in responsible quarters about the data presented in this "Relative Effects of CBR Weapons" chart as originally prepared by the ACS Committee on Civil Defense; and, as a result of these questions, the author requested the Office of Civil Defense Mobilization to review this data and recommend, after suitable consultation with other agencies, appropriate changes. Figure 1 represents a somewhat modified version of the "Relative Effects of CBR Weapons" as originally prepared by the ABS Committee on Civil Defense. When consideration is given to any summary of this type on the relative effects of CBR weapons prepared for diverse audiences, it should be remembered that many oversimplifications must be incorporated and many modifying details must be omitted as a matter of expediency. Analyses of the effects of Chemical and Biological Agents are certain to vary just as the estimates of the probable blast and radiation effects have differed in the past. This should be recognized and accepted as the parameters considered when

Fig. 1. — A Revised Estimate of The Relative Effects of CBR Weapons

(This is a modification of the chart on "Relative effects of CBR Weapons" as prepared by the American Chemical Society's Committee on Civil Defense.)

Basic assumption: For the purpose of this table we agree that one B-52 bomber (or its equivalent) can carry either one, 20-megaton thermonuclear bomb or enough CW or BW agent to create the comparable results shown in the upper half of this table.

	Nuclear Weapons	Chemical Weapons	Biological Weapons
Immediate effective area	200 square miles (A&B rings)	Up to 25 sq. miles under favorable conditions	1,000 to 100,000 sq. miles depending upon agent and conditions
Human Lethality (or morbidity) in immediate area (unprotected)	98-100% morbidity (not necessarily lethal)	30% morbidity over 25 sq. mi. Morbidity would approach 100% over about 4 sq. mi.	Up to 80% morbidity (0-50% fatalities depending upon agent used)
Residual effect	Fall-out may extend over several thousand sq. mi. Duration of hazard will vary from hours to many months depending on type of weapon used and its height of burst.	Few minutes to several days	Several hours for some noncontagious agents, and longer for contagious-type agents
Time for immediate effect	Seconds	Few seconds to several hours	Few days to few weeks
Real property damage, immediate area	200 sq. mi. destroyed or damaged beyond repair	Undamaged	Undamaged
Variation in effect	Little	Wide — need not kill, only incapacitate	Wide — need not kil., only incapacitate
Time an aggressor is able to safely invade area after attack	After termination of residual effect	After termination of residual effect	After termination of residual effect
Human protection that could be available	Evacuation; shelters; civilian mask (fall-out)	Civilian mask, CD V-805; shelters with filters	Civilian mask, CD V-805; immunization; shelters with filters
Current defense for U.S. population (physical devices)	Some, but can be greatly improved	Nearly nonexistent	Nearly nonexistent
Cost of protection	Shelters ($150-$800 per person	Mask, $2.50-$8.00 Filters in shelters ($15-$20/person)	Mask, $2.50-$8.00 Filters in shelters ($15-$20/ person) Immunization (unknown)
Covert application	Little	Some	Great
Detection and identification	Simple	Complex but fairly effective and rapid	Difficult; complex and slow
Medical counter-measures	Little	Good if immediate	Some, much more needed; high health and sanitation standards help.
Would attack trigger retaliation?	Yes	Yes	Doubtful, if covert; slow at most
Capital equipment cost to produce agents	Very expensive	Somewhat expensive	Relatively inexpensive
How does agent attack target?	Direct impact, then some "seeking" with fall-out	"Seeks out" target	"Seeks out" target

oversimplifying are so variable.

Furthermore, it now seems quite possible that chemical or biological agents can be tailored to temporarily incapacitate those subjected to these materials. *Thus, chemical and biological warfare can actually become humane weapons instead of the horrible lethal agents which most people have instinctively and subconsciously associated with the use of toxic gases and germ warfare in the past.*

Henceforth, we should be the first to realize that these newer chemical agents and certain viral and bacteriological diseases with ability to temporarily disable without killing, or leaving any permanent residual defects, are the only types of special weapons we can possibly use to stop an aggressor who launches an attack against us or our friends through an allied country. True, our friends and allies as well as our enemies would initially be equally incapacitated; but there would be certain important ultimate differences. *Our enemies would be disarmed and in prioner of war camps when they recovered; whereas our friends and allies would suffer no*

Foot note: The text used in the course was: United States Civil Defense, "Instructor's Guide, Radiological Monitoring for Instructors" (for Interim Use Only), Federal Civil Defense Administration, November 1957 (reprinted February 1958) (Interim Instructor's Guide No. 1).

permanent casualties and would completely recover and still be free men and women when the effects of these spcial weapons had worn off. On the other hand atomic and nuclear weapons if used would without discrimination kill or seriously injure both our friends and our enemies.

Material presented in papers earlier in this symposium has shown that it is entirely possible and feasible at a nominal price to provide our civilian population with an adequate and effective protection against chemical and biological warfare agents. Education and technical effort will be required, but the cost can be shared by both the government and the individuals without being unduly heavy or overpowering.

It is further obvious that civilian protection against chemical and biological attack is largely one of action by individuals and local communities. Individuals can provide themselves with satisfactory protection at costs within local financial ability. Government guidance and instruction would be needed but would not require tremendous government expenditures as would an adequate protection against all phases of nuclear attack.

The knowledge of the agents which could be used along with suitable preventive inoculation procedures, the filters for purifying the air, and the protective clothing can be developed by the Chemical Corps, the United States Public Health Service, organized medicine, and private enterprise. In addition, it takes individual, family, and community action to secure their necessary and proper use and to prepare the local Civil Defense plans against chemical and biological weapons. As a matter of fact, this form of special weapons defense lends itself well to private industrial activity and is an enterprise in which the entire civil populations might cooperate effectively for their own protection and survival.

The final thing to remember is in many ways the most tragic and least understandable. Mr. Clifford E. Rasseweiler(4) has expressed it so well that I have elected to quote him verbatim — "In spite of the obvious and vital danger; in spite of the horrible things that could happen to us if we remain unprotected; in spite of the fact that the development of adequate protection is obviously possible; in spite of the fact that the cost of this protection is relatively low in relation to total defense spending; in spite of all these things; until recently we have done almost none of the things that need to be done."

Let us now take a look at what few things have been done over the past eight years since the American Medical Association first began to urge the old Federal Civil Defense Agency (FCDA) to devote more attention to planning an adequate CW and BW defense. Basic and necessary information for defensive purposes about the new chemical agents has been gradually declassified over the past two years and has finally been made available to Civil Defense agencies. Some of the other more important accomplishments will be summarized.

Simplified and practical kits (CD V-810) have been designed and developed for the quick identification of vesicant and nerve gases in the field (Fig. 2). The Chemical Corps Engineering Agency developed a more elaborate "Kit, Chemical Agents Analyzer, M10A1" (Figs. 3 and 4) which was designed for the identification of: a) Nerve gases (G), b) Cyanogen Chloride (CK), c) Hydrocyanic acid (AC), d) Phosgene (CG), e) Lewisite (L), f) Ethyl dichlorarsine (ED), g) Mustard (H), h) Nitrogen mustard (HN), i) Chloracetophenone (CN) or Brombenzylcyanide (BBC), and j) Chlorpicrin (PS). The Civil Defense Agency special weapons central laboratories will need a somewhat similar kit for use in a more detailed analysis of both the older as well as any new chemical agents that might be used against us in event of war.



Fig. 2 — Detector Kit CD V-810 for Chemical Agents.

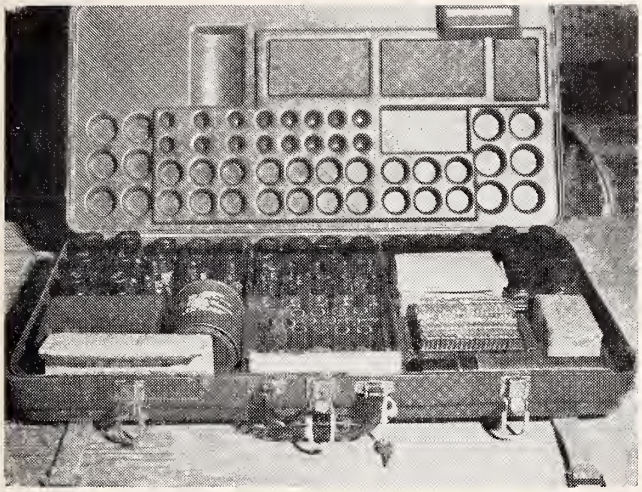


Fig. 3 — Kit, Chemical Agent Analyzer M-10-A1.

A water testing and screening kit, the (AN-M2) V-902, and a food testing and screening kit, the (AN-M3) V-903, are available in small numbers. These kits are designed for the simple and rapid field testing to detect chemical agent contamination of water and of food of food packages.

Heavy duty CCDM organizational protective masks, CD V-800 and CD V-860 are now available for training and use in an emergency by Civil Defense personnel that would be required to work outside and in contaminated areas (Fig. 4). These masks are both equivalent to the regular Army gas mask in effectiveness and length of protection. A Familiarization Booklet(5) designed to acquaint government and auxiliary personnel who have Civil Defense emergency assignments with the use and care of protective masks, CD V-800 and CD V-860, and the Chemical Agent Detector Kit, CD-810, is available.



Fig. 4 — Protective Mask, VD V-860 (rt) and Protective Mask, CD V-800 (lt).

A civilian protective mask to be known as the CD V-805 has been developed (Fig. 5). Field tests on this mask have been completed and necessary changes in the design were made to correct certain defects found in the original models. This civilian mask is now said to be ready for mass production.

Suitable training outlines (See Annex I) and OCDM training materials(6) are now available for use at the state and local levels by chemical identification and detection teams. Other training schedules have been developed and recommended by certain state Civil Defense agencies, by the Committee on Civil Defense of the American Chemical Society, and by the United States Public Health Service.(7) The training plans are basically similar and would vary only in minor details.



Fig. 5 — The Civilian Protective Mask, CD V-805.

Much basic information (such as that presented here today) necessary for Civil Defense planning purposes has now been made available to those who need to know. This data applies to both chemical and biological warfare agents which might be used against man and against his animals and plant food supply.

Plans have been made for the prompt reporting of outbreaks of epidemics of diseases amongst humans and animals. Farmers, county extension agents, and state veterinarians have been alerted to report promptly any unusual outbreaks of crop or animal diseases. Quarantine stations and customs officials have become even more alert in their check for diseases amongst plants and food brought into the United States from foreign countries; and an ever constant check is similarly maintained regarding imported animals. International airplanes are thoroughly sprayed with insecticides when such ships have come from areas where disease-infected insects might have gotten aboard.

Much has been accomplished in the way of developing more rapid detection and identification of disease producing bacteria, viral agents and bacterial toxins. Most noteworthy has been the perfection of the flurosine tagged antibody technique and its application to a much wider range of bacterial agents, strains of streptococci and viral diseases such as rabies.

Noteworthy and praiseworthy has been the activities of the Committee on Civil Defense of the American Chemical Society. About two years ago, this committee under the chairmanship of Professor Conrad Ronneberg, began a program designed to awaken the Office of Civil and Defense Mobilization and the public to the great potentials of CW and BW agents, and to repeatedly call attention to the urgent need for the development of an adequate defense against such versatile and deadly weapons.(8)

Although considerable has been accomplished in respect to developing an adequate defense against chemical and biological agents, much more needs to be done and as quickly as possible if this nation is to be adequately prepared to survive an enemy attack with the new CW and BW agents. These two special weapons can be delivered and their range of effectiveness has been greatly extended during the past ten years as pointed out by the previous speakers.

Now that sufficient heavy duty masks and suitable detection kits for the identification of CW agents in the air, on the ground, and in food and water have become available, it is imperative that a suitable training program for detection and decontamination teams be made available. It is recommended that training programs (similar to those carried out so successfully over the past eighteen months to train radiation monitoring teams—see Annex II, Part A and Annex II, Part B for details of the training programs in radiation monitoring) be activated at once for personnel in police and fire departments, hospitals, factories, mills, and other industrial plants. Teams should be trained as special detection and decontamination units to work with the county and local Civil Defense agencies.

It is imperative that medical and paramedical personnel at all levels be trained in protection and decontamination measures. Every medical installation in the chain of medical evaluation (from the first aid unit through the collecting stations, to the hospitals) should be trained to prevent contamination of medical personnel, equipment, and installations with CW and BW agents that may be on patients and their clothing. Quicker methods must be found for doing this, and it should entail the use of counter agents that can be kept immediately at hand and which do not require water — a substance which may not be immediately available for decontamination purposes.

Fixed hospitals as well as the 200-bed emergency Civil Defense hospitals should provide some form of auxiliary water supply and a suitable emergency shower arrangement which could be put into quick operation in the event that CW casualties be brought in for admission. The Maine State Civil Defense Agency began thinking about such equipment and suitable decontamination procedures as long as eight years ago. Such equipment is shown in Fig. 6 and Fig. 7. Of course, it is obvious that this first type of devised portable shower will not fill the present requirements for quick decontamination against persistent liquid nerve gas agents; but it points the way to some of the things which remain to be worked out for the emergency medical installations at all levels.

Not only must a quick and suitable way be found for the immediate removal or neutralization of CW and BW materials still on casualties in order to prevent the contamination of medical personnel and medical facilities; but detection teams must be trained and suitable monitoring

b. First Aid Procedures

1. Remove all clothing from disaster victims who are suspected of having been exposed to BW agents before they are admitted to any collecting station or to any hospital installation and place contaminated clothing in containers provided for that purpose.

2. All such ambulatory personnel should then pass under a series of showers where suitable detergents are available for use along with vigorous scrubbing of the entire outer surface of the body. See Charts III and IV.

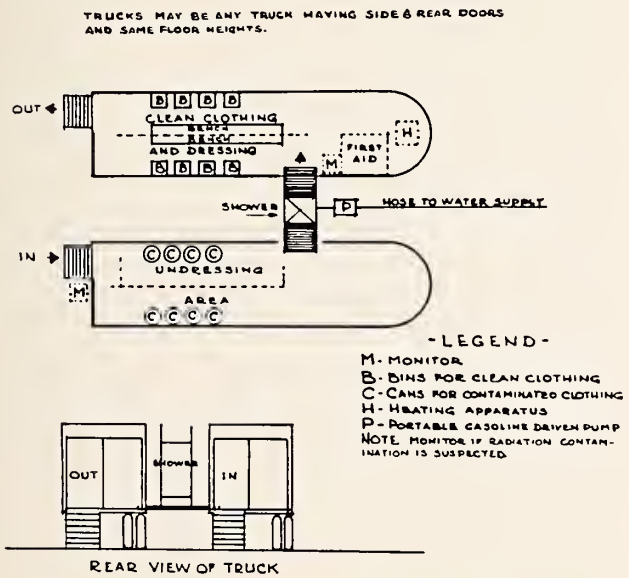


Chart 3.—Method for adapting vehicles for use as decontaminators for personnel.

3. All such non-ambulatory disaster victims will have to have clothing removed and placed in suitable containers and will require bathing by Medical and Hospital personnel before they can be admitted to the main wards and rooms in the hospital proper.

4. Clean hospital clothing must be provided for the disaster victims as they leave the showers in the decontamination truck.

Fig. 6 — Truck trailer vans equipped for undressing of contaminated personnel, a portable shower between vans, and clean clothing for decontaminated CBR civilians. . .

and detection devices must be provided at all medical installations as well as in the field. Adequate training equipment is now available to states from OCDM to permit the immediate instigation of this much needed training program.

Adequate tight metal containers must be provided for contaminated clothing and clean replacement clothing must be available. Decontamination teams must be trained and attached to medical installations. Suitable decontamination equipment and supplies must be manufactured and widely dispersed.

There is great need for some new form of impregnated clothing that will adequately protect Civil Defense workers and medical personnel against Chemical Agents of all types. The older forms of impregnated clothing were highly irritating to the skin and did not adequately protect against the new persistent liquid nerve gases (Fig. 8).

Impermeable clothing developed previously has not been satisfactory because it does not let perspiration or heat out and makes it impossible for the wearer to work for more than very short periods of time in hot weather while wearing the impermeable suit (Fig. 9). The Chemical Corps is said to be working on a greatly improved type of protective clothing; and private industry is donating thought and effort to developing protective garments. For example: MacDonald-Bernier Company, Inc., of Boston 10, Massachusetts, has just recently announced — "An outstanding contribution to this country's preparedness and survival program" in the form of a "Life Pack Fallout Suit" (Fig. 10) to be priced initially at $18.95 each, delivered postpaid. This suit is advertised as providing complete cover and full protection from fallout dust coming in direct contact with the body or from breathing it into the lungs. The manufacturers of the filtration material in this suit have advised that it filters down to 3 microns, and lower in some instances according to the composition of the dust material. Furthermore, an attempt has been made to make this suit more comfortable and wearable for a longer period of time by suspending two bags of CO_2 and moisture absorbent chemical material inside each suit.

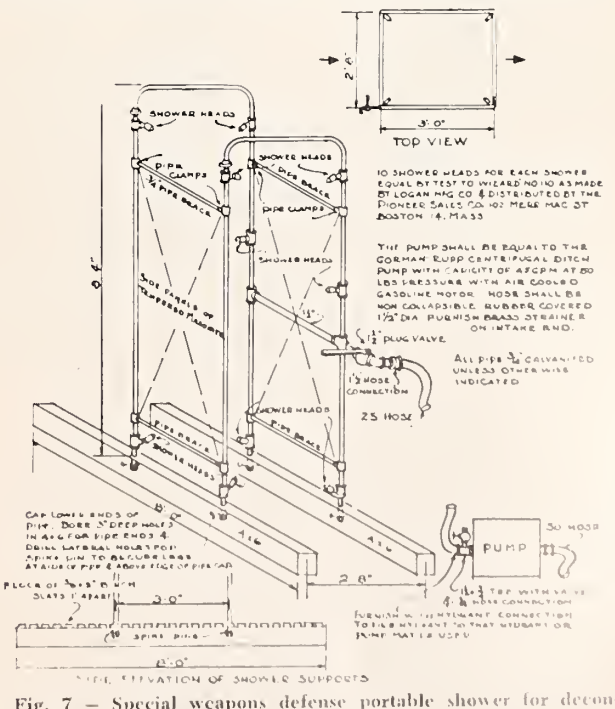


Fig. 7 — Special weapons defense portable shower for decontamination of personnel.



Fig. 8 — Picture of the older form of Army impregnated clothing used in World War II. (Picture taken from rescinded Department of the Army-TM 3-290-"Individual Protective and Detection Equipment").

However, as Colonel George D. Rich, Deputy Assistant Director of CBR Defense, OCDM, Battle Creek, Michigan, has warned, *it must be remembered that this type of impermeable suit does not give adequate protection against gamma radiation in the air.* Nevertheless, some type of inexpensive impermeable suit designed to give protection to the skin and respiratory passages against fallout dust and against chemical and biological warfare agents may be needed by Civil Defense workers. It would seem that the Chemical Corps and private industry working together should be able to design and produce such a suit that would be protective and wearable for a reasonable length of time. Providing adequate protection against gamma radiation will be a much more difficult and expensive problem to solve.

Medical personnel must be trained to recognize and to treat lesions caused by vesicant gases. Very few doctors are still living today in this country who have ever seen or treated vesicant gas casualties. Likewise, only a very limited number of physicians have ever seen or had experience in the recognition and in the heroic medical measures required to save casualties from either nerve gas agents at chemical warfare installations or those persons who have had an

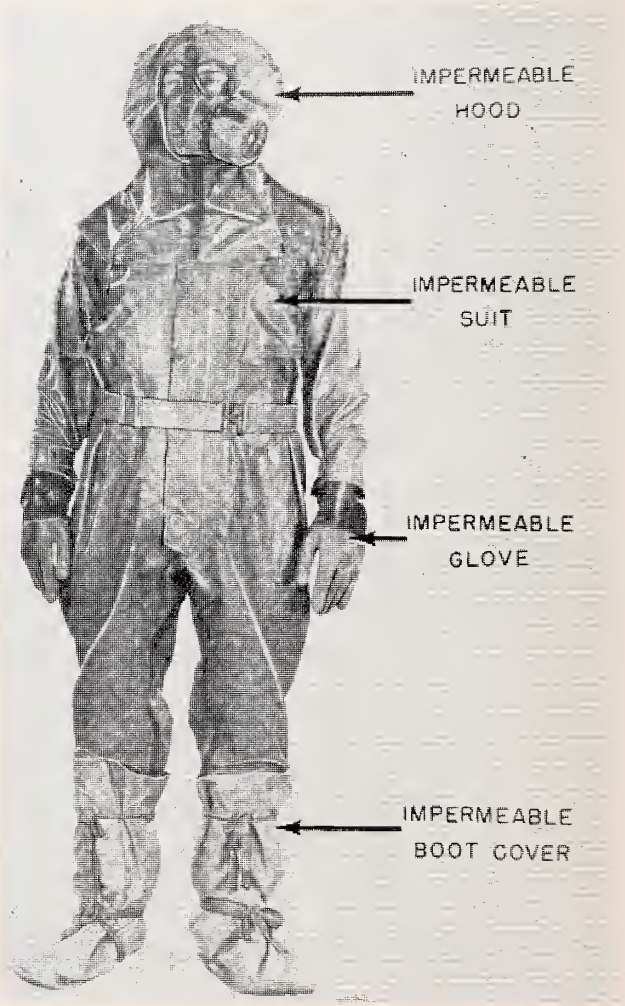


Fig. 9 — Picture of the older form of Army Impermeable Protection Outfit developed about the close of or just after World War II. (Picture taken from rescinded Department of the Army-TM 3-290-Individual Protective and Detection Equipment).

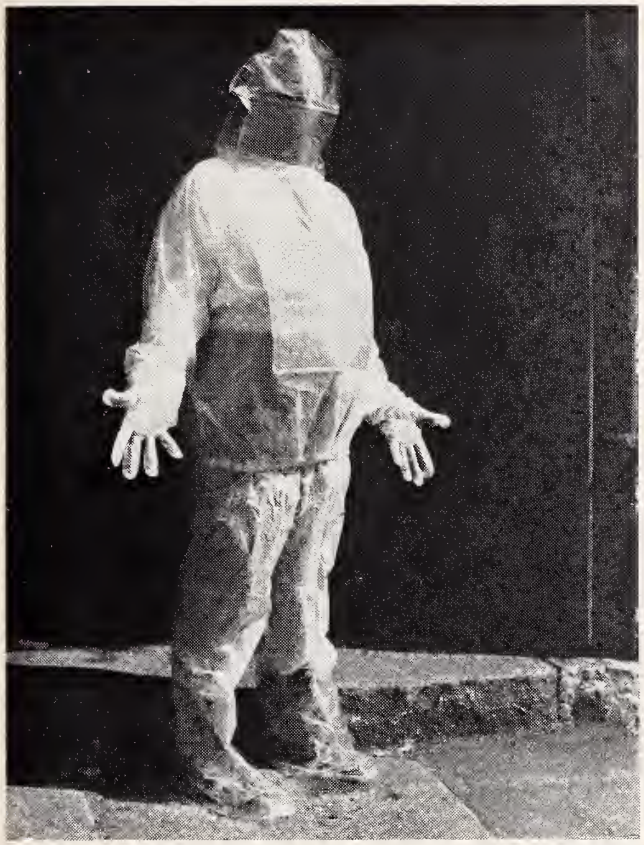


Fig. 10 — "Life Pack Fallout Suit" Developed by MacDonald-Bernier Co. (An Atomic Radiation Dust Protection Suit with 420 sq. inches of air filtration in the suit and two bags of CO_2 and moisture absorbent material suspended in the suit. Manufacturer of the filtration material claims that it filters down to 3 microns and lower in some instances according to the composition of the dust material.)

over-exposure in the newer nerve gas-like insecticides, such as parathion and malathion.

The technical knowledge is now available to save the lives of every nerve gas casualty, but there are momentous and at the present time many unsolved technical problems involved. For example, a protective mask is an absolute necessity if one is to survive in a contaminated atmosphere. At present there are far too few heavy duty CD V-800 masks or respirators available and distributed to Civil Defense personnel. Although there is a new civilian mask, CD V-805, that has been developed and field tested, absolutely none have been produced for distribution to the civil population. It is not enough to have a mask field tested and molds for their manufacture placed on the shelves of industrial concerns. These masks must be manufactured, widely distributed, and properly fitted. The people must have them and know how to get into the respirators properly and quickly. As of now, the civilians of this country are completely without this minimum life-saving protective device and would, accordingly, be completely vulnerable to attack by any enemy using chemical warfare agents. *This is a most intolerable state of affairs and must be remedied.*

Then there will be the problem of the availability of atropine in suitable quantity and at the proper place when it is needed. If the present Civil Defense emergency supply were divided amongst the physicians of this country, there would be only six doses per physician. This is obviously not enough to treat even one severely affected nerve gas casualty. Even should there be a sufficient quantity of atropine at the proper location where it would be needed, there would be the problem of distribution to adequately trained and suitably masked personnel who could administer it in large doses by intravenous, intraplural, and intracardiac routes within two minutes of the start of exposure.

In addition, personnel equipped with masks and suitable attachments for giving mask-to-mask direct resuscitation would have to be available within the same short period of time. No one can give direct mouth-to-mouth artificial respiration to a nerve gas casualty in a contaminated atmosphere without himself becoming a victim of the same lethal chemical agent.

These technical problems seem pretty nearly insurmountable at present. It would appear that much more research should be directed toward a further development of drugs with an oxime-like action which, perhaps, could be taken by mouth before or immediately after an attack with nerve gas agents and would neutralize or greatly decrease their lethal effects.

Even more remains to be done if we are to have an adequate defense against Biological Warfare agent weapons. Much research designed to develop early detection and warning devices for BW agents has already been done; and as a result a break-through is believed to have been made in this field. However, to date no such early detection and warning device has been put into production and made available to Civil Defense agencies.

Then there is a need for early recognition and identification of the clinical disease produced by any one or combination of these potential

BW agents. Most civilian doctors have never seen a clinical case of such diseases as cholera, anthrax, bubonic plague, yellow fever, or Venezuelan equine encephalomyelitis, to mention just a few. There may be sickness in man produced by diseases which ordinarily only cause disease in animals. Furthermore, the route of entrance into the body will probably be through the lungs, and the pulmonic form of the illness may not at all resemble the same disease acquired by entrance of the causative agent into the body through the skin or gastro-intestinal tract. Even more serious will be the fact that some of the pulmonic varieties of these diseases will be much more contagious to persons in contact with said disease than would be the usual type of these same illnesses produced by the same causative agents.

The flurosine tagged antibody technique has greatly speeded up the identification of many potential BW agents. The new filter techniques for collection and rapid incubation have also lessened the time required to grow out many bacterial agents in sufficient numbers to permit their earlier identification of BW agents; and this is particularly true of the potential viral agents. Ideally, one should be able to detect and identify such agents before they can produce actual illness in the subject and in time to permit the instigation of medical treatment devised to prevent the development of clinical symptoms and disability.

Vaccines and various forms of active immunization against many of these BW agents would be desirable. Mass immunization programs could greatly reduce the number of BW agents which might be used successfully against us, but there are many social, religious, and practical problems connected with their instigation.

There will be the same need for protective masks, impregnated protective clothing, adequately trained medical and paramedical personnel, litter bearers, ambulance personnel, and for decontamination procedures such as those discussed before for chemical agents. Provisions may also need to be made in all emergency facilities and in the remaining fixed hospitals for the isolation of all contagious BW casualties and for the unprotected contacts.

Vast quantities of antibiotics of various types must be stockpiled. Research must be devoted to ways in which the present effective life of antibiotics and chemotherapeutic agents can be substantially prolonged.

In conclusion, nothing in the past history of wars has proven more disastrous than to have a good defense against a certain form of attack only to have the enemy use a type of offense against which no defense has been prepared. A good modern example of this could be our overwhelming emphasis on defense against radiological attack and our almost complete neglect of preparation for defense against the other two equally potent forms of special weapons warfare. *A present day attack against us with widespread use of chemical and biological agents would find us completely unprepared and could be disastrous to our national survival.*

Colonel William L. Leet, MC, USAR*, called attention this summer at Camp Drum, New York, to a motto of his Norwich University alma mater: "The liberties of Rome were secure while every citizen was also a soldier." Your speaker believes that *our motto should be: "The liberties of the United States will be secure when every citizen is also an adequately trained and properly equipped (with civilian gas mask and home shelter) Civil Defense worker."*

*William L. Leet, M.D., Internist, Providence, Rhode Island.

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ANNEX I

CHEMICAL WARFARE DEFENSE
Civil Defense — State of Maine
Revised training course outline

TIME: 18 Hours (3 hours per lesson)

1. Special Weapons Defense Problems:
 Atomic warfare
 Biological warfare
 Chemical warfare
 Texts: Army FM 21-40* (Chapter I); Army FM 21-41* (Chapter 2); FCDA AG-11-1.
 Films: ABC Warfare defense — Ashore.
 Exhibit: Protective mask, CD V-800 and CD V-860, Chemical Agent Detector Kit, CD V-810, Atropine syrettes.
2. Purpose of Chemical Warfare.
 Historical orientation
 Army TM 8-285* (1956 edition)
 FCDA TB-11-25 Introduction to Chemical Warfare.
 Definitions
 FCDA 2B-11-26 General concepts of Chemical Warfare.
 Requirements and classification of chemical warfare, FCDA — Chemical Weapon agents of special significance to Civil Defense. Army TM 8-285* (1956 edition); FCDA TB-11-26; Army FM 2-41*.
 Nerve Gases: Army TM-8-285* (1956 Edition); Army FM 2-41*; Army FM 21-40*.
 Film: Nerve gas.
3. Blister and Other Gases.
 Texts: Army TM 8-285* (1956 Edition); Army FM 21-40; Army FM 21-41*.
 Film:
4. Detection and Idientification of Chemical Agents.
 TB-11-29 Chemical Agent Detector Kit, CD V-810
 Tests: Army TM 3-215* (1956 edition); FCDA TB-11-29 (describes Chemical Agent Detector Kit, CD V-810); Army FC 21-40*; Army FM 21-41*; USPHS "Methods for the Identification of Chemical Warfare Agents in Aqueous Carriers," Publication No. 529.
 Demonstration and use of Detector Kits and similar available equipment: CD V-810 Chemical Agent Detector Kit, M-10-A1 Kit; Chemical Agents Analyzer, AN-M2 V-902 Water testing and screening kit; AN-M3 V-903, a food testing and screening kit.
 Film: MN 7984-C. Detection of contaminated areas.
5. Protection Against Chemical Agents.
 TB-11-33, Protective Mask, CD V-800.
 Tests: FCDA Technical Buleltin (to be issued); FCDA TB "First Aid for War Gas Casualties"; FCDA TM-11-8 (revised edition); Army FM-21-40* and 21-41*. Demonstration and use of protective equipment and supplies; mask, vesicant ointment (CD V-820), and protective and treatment set (CD V-815)) etc.
 Films: MN 7984-D, Protective Clothing. MN 7984-B, Protective Shelters. Also see Army TM 3-420* on shelters.
6. Decontamination.
 Texts: FCDA TB-11-32, War Gas Decontamination; Army TM 3-220*; Army FM 21-40* and 21-41*.
7. Summary and Review.
 Those attending the course should demonstrate their ability to use detector and screening kits, available protective equipment, including decontamination procedures. It is considered that 50 per cent of the training time will be devoted to practical training and demonstrations.

Supplementary to the above-mentioned texts are "Plans for Special Weapons Defense, State of Maine"; "Sanitary Engineering Practices in Civil Defense Disaster," USPHS, Sanitary Engineering Center publications; FCDA Technical Bulletins.

December 6, 1957
John L. Parsons
Chief, Chemical Defense
Maine Civil Defense and
Public Safety Agency

REFERENCES

FM 21-40: Small unit procedures in Atomic, Biological and Chemical Warfare. 5 Nov. 1958.
FM 21-41: Soldiers Handbook for Nuclear, Biological and Chemical Warfare. 19 Dec. 1958.
TM 3-205: Protective masks and accessories. 27 Apr. 1955. (There is a Change — 2, 28 June 1957.)
TM 3-215: Military Chemistry and Chemical Agents. 3 Aug. 1956. (There is a Change — 1.)
TM 3-220: Decontamination. 14 Oct. 1953. (Change — 1 dated 13 Aug. 1956.) (Also, Change — 2.)
TM 3-290:
TM 3-420: Filter Unit, Gas — Particulate, 300 CFM, GEDEMD, ABC-M6. 27 July 1956. (There is a Change — 1.)
TM 8-285: Treatment of Chemical Warfare Casualties. 12 Dec. 1956.
DAR 8-11: Handbook of Atomic Weapons for Medical Officers. 26 June 1955.

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ANNEX II

Part A
Civil Defense and Public Safety
OUTLINE OF BASIC COURSE IN
RADIOLOGICAL DEFENSE MONITORING

TIME: Six hours, (one hour per lesson)

WHO TEACHES: Anyone having completed FCDA Instructor Course or equivalent. State CD Director will name or specify approved instructors.

WHO STUDIES: Local CD service personnel, local industry personnel, State CD staff, Sector or Area Command Post Staff, Local Fire and Police Department — Selected personnel, Health and Welfare Management Services. (All personnel from CD and Associated Services)

WHEN: As soon as instruments are delivered to local community or service requesting the training. Request practice exercise kit equipment from State CD.

WHERE: To be designated by sponsoring authority. Naval Reserve Stations, High Schools, Fire Stations, Grange Halls, are examples of available locations.

EDUCATION REQUIRED: High School or equivalent.

TRAINING MATERIAL:
Technical Bulletins of FCDA.
Training films when available.
State Training Kit when available ,but not necessary).

INSTRUMENTS: Practice Exercise Kit:

5 — 0-200 mr. dosimeters (V-138)	$ 50.00
2 — Geiger counters (V-700)	120.00
2 — Medium Range Survey meters (V-710)	100.00
1 — High Range Beta Gamma Survey Meter (optional) (V-720)	100.00
2 — 0-20 r. dosimeters (V-730)	20.00
2 — 0-100 r. dosimeters (V-740)	20.00
2 — Dosimeter chargers (V-750)	40.00
12 — 0.1-5.0 mr. Colbalt 60 sources in lead container with long tongs for handling*	150.00

*Optional.
Must be supervised by qualified person. State will control. All students working near source will wear V-138's or equivalent. Exposure during training must be recorded by student and reported to instructor. Instructor should record and report to State if over 5 mr. Exposure during training should be limited to 300 mr. per week.

COURSE OUTLINE*

Lesson 1.
Facts about Fall-out (Film strip).
Emergency Exposure Policy. (TB 11-1)
Dosimeters. Demonstrate Use and Teach Operation.

Lesson 2.
Use of dosimeters continued.
Personal protection against fall-out.
Use of dosimeters in estimating dose rates.
Practice in charging and reading dosimeters.
Expose V-138's to radiation and demonstrate inverse law and dose — Dose rate X times.

Lesson 3.
Use of V-710.
Principles (simple).
Familiarization — Scales, switches, battery check, etc.
Maintenance. Change batteries.
Use and Practice.

Lesson 4.
Use of V-710. Review.
How to measure dose rate.
Use of V-720. How to estimate dose from dose rate.
Nature of radioactive decay of fission products.

Lesson 5.
Use of Geiger Counter Instrument V-700.
Meaning and danger of radioactive contamination.
Food and water test for emergency consumption.
Methods of decontamination.

Lesson 6.
Review. Examination. Students should demonstrate their ability to use instrument and to make measurements in the presence of real radioactivity.
Check sample of water for radioactivity.

* For beginners in Radiological Monitoring.
Foot note: This course has now been expanded to ten hours, and "Instructor's Guide, Radiological Instrument Operation" (for Interim Use Only), United States Civil Refense, Federal Civil Defense Administration, November 1957 (reprinted April, 1958) (Interim Instructor's Guide No. 2) is used as the text.

ANNEX II

Part B

OUTLINE OF ADVANCED COURSE
IN RADIOLOGICAL DEFENSE
SCHEDULE OF RADIOLOGICAL
INSTRUCTORS COURSE
UNIVERSITY OF MAINE

Sunday

TIME	SUBJECT
7:00 - 9:00 P.M.	Registration in Library

Monday

8:30 - 9:00 A.M.	Introduction and Orientation
9:00 - 10:20 A.M.	Physical Aspects of Nuclear Weapons
10:20 - 10:30 A.M.	Break
10:30 - 12:00 A.M.	Basic Concepts of Nuclear Science
12:00 - 1:15 P.M.	LUNCH
1:15 - 2:00 P.M.	Chemical and Biological Warfare
2:00 - 3:00 P.M.	Mass Psychology and Behavior
3:00 - 3:15 P.M.	Break
3:15 - 4:45 P.M.	Principles and Types of Radiation Measuring Devices
5:00 - 6:30 P.M.	DINNER
7:00 - 9:00 P.M.	Problems

Tuesday

8:00 - 8:20 A.M.	Report on Assigned Problems
8:20 - 10:15 A.M.	Operation and use of Dosimemeter and Survey Meter
10:15 - 10:30 A.M.	Break
10:30 - 12:00 A.M.	Interaction of Radiation with Matter
12:00 - 1:15 P.M.	LUNCH
1:15 - 2:45 P.M.	Dose and Dose Rate Calculation
2:45 - 3:30 P.M.	Mechanics of Fallout Dispersion
3:30 - 5:00 P.M.	Plotting Fallout Using Weather Bureau Data
5:00 - 6:30 P.M.	DINNER
7:00 - 9:00 P.M.	Problems

Wednesday

8:00 - 8:20 A.M.	Report on Problems
8:20 - 10:00 A.M.	Biomedical Aspects of Radiation
10:00 - 10:15 A.M.	Break
10:15 - 12:00 A.M.	Evaluation and Control of Radiation Hazards
12:00 - 1:15 P.M.	LUNCH
1:15 - 2:15 P.M.	Care and Maintenance of Radiological Instruments
2:15 - 3:15 P.M.	Allowable Emergency Exposure
3:15 - 3:30 P.M.	Break
3:30 - 4:30 P.M.	Radiological Monitoring Techniques
5:00 - 6:30 P.M.	DINNER
7:00 - 9:00 P.M.	Problems

Thursday

8:00 - 8:20 A.M.	Report on Problems
8:20 - 9:20 A.M.	Principles of Decontamination Demonstration and Exercise
9:20 - 10:20 A.M.	Source Handling Techniques
10:20 - 10:35 A.M.	Break
10:35 - 11:00 A.M.	Comparison of V-700, V-710 and V-720
11:00 12:00 A.M.	Instrument Familiarization
12:00 - 1:15 P.M.	LUNCH
1:15 - 2:00 P.M.	F.C.D.A. Instrument Program
2:00 - 3:30 P.M.	Calibration of CD V-700
3:30 - 3:45 P.M.	Break
3:45 - 5:30 P.M.	Radiation Protection Methods
5:30 - 6:30 P.M.	DINNER
7:00 - 9:00 P.M.	Optional: Radiological Defense Demonstration of State Staff College

Friday

8:00 - 10:00 A.M.	Methods of Instruction
10:00 - 10:15 A.M.	Break
10:15 - 11:00 A.M.	Examination
11:00 - 12:00 A.M.	Area Survey
12:00 - 1:15 P.M.	LUNCH
1:15 - 2:30 P.M.	Calibration of Ion Chamber Instruments V-710
2:30 - 2:45 P.M.	Break
2:45 - 3:30 P.M.	"Operation Prospect"
3:30 - 4:00 P.M.	Graduation

Emergency Health Service Concept

Robert L. Smith, M.D.

An old maxim instructs us "to do the wisest thing if you know what it is, but anyway do something — the wisest thing you know." If the cynics will direct their attention to the operational survival plans of their States and local communities and participate within the organizations the plans provide, they can make significant contributions to the welfare of the country. I know they will meet a very large group of dedicated people, who are devoting their full effort in doing the best they can — the wisest things they know — to prepare their communities and their country to survive and recover if disaster strikes.

IN A WORLD where international discussion is on the level of hydrogen bombs, it is important that we focus attention upon our community health services and personal survival. The only absolute protection we have against modern warfare is to prevent its occurrence. We are all familiar with the efforts of our country in this respect and, through educational processes and international organizational activities, we fervently pray that we will never have to face up to the stark horror of an attack upon this nation.

However, as long as there exists in the world a political, economic, and social system that is dedicated to destroying our way of life, we must devote considerable time and resources to ensure our people a capability of surviving disaster should it occur. That you are gathered here today, and similar groups are meeting regularly at the National, State, and local levels, signifies appreciation of this need. But, the fact that this need exists and we appreciate it is not enough. We must do something about it and, as you might expect, it is in this area that much of the controversy about civil defense is centered.

With your permission, I would like to discuss some of the things we, as individuals and as community representatives, must consider if we are to "get something done" in health mobilization.

The National Plan for Civil Defense and Defense Mobilization, promulgated by the President in October, 1958, defines the mission of non-military defense as an integral part of the total defense of the nation. This mission includes:

1. Protection of life and property by preparing for and by carrying out non-military functions to prevent, minimize, repair, and recover from injury and damages; and

2. Mobilization and management of resources and production.

Much has been done by States and their local jurisdictions toward accomplishment of the first part of this two-fold non-military defense mission. The States, with encouragement, guidance, and assistance from the Office of Civil and Defense Mobilization, have prepared and published comprehensive operational survival plans. The Operational Survival Plan developed by the State of Minnesota is an outstanding example

Presented at the Ninth U. S. Civil Defense Council Conference, Minneapolis, Minnesota, September 31, 1960.

Deputy Chief, Division of Health Mobilization, Office of the Surgeon General, Public Health Service, DHEW, Washington 25, D. C.

of these State emergency plans.

Similar operational survival and disaster plans have been prepared by the separate counties and communities in many states. These treat in detail what is to be done to accomplish organization of local governments and people in the provision of essential community services and disaster relief to the population. They include plans for providing emergency health and medical care, welfare services, fire and rescue services, law enforcement, traffic control, radiological defense, public information, emergency communications, transportation, and other vital services that will be required to protect life and property in a disaster.

In addition, these State and local plans make comprehensive preparation for the control of goods and services and effectively direct their distribution and use during an emergency. They provide for systems by which rationing of food, fuels, clothing, and other necessities can be accomplished and the problems of continued operation of essential industry and business, use of money and credit, and restoration of essential services are considered.

All of these civil defense activities bear directly upon our health program operation. The plan tells us how to group these seemingly unrelated activities together in such a way that they will function in unison, under control, to produce a desired result — survival of the community.

It has been proved under all conditions of war and peace that people succeed best who form definite ideas of what they are going to do before they start to do it. Without a plan, we drift into situations and find ourselves at the mercy of circumstances. To "get something done" in civil defense, we must have an emergency operations survival plan which sets up an organization. Available health personnel are fitted within this organization in such a way as to utilize to the maximum their particular skills.

Training must then be provided to increase and extend the technical skills of assigned personnel and to teach them to operate in a coordinated manner.

Another ingredient we need to "bake the cake," is to "build in" civil defense. It is only through this device that we can accomplish a civilian force-in-being mission — oriented to disaster operations.

With these basic things in mind, let us look at some of the principles that must be considered in the provision of community health services in an emergency.

The primary *mission* of emergency health services is to:

Minimize the effects of natural or made-made disaster, through such measures as mass casualty care, emergency preventive health measures, and rehabilitation;

Maintain the non-casualty population in a state of good health; and

Restore essential community health services in order that the country can recover as quickly and effectively as possible.

We at the National level must establish an Emergency Organization patterned after the activities in states in order to offer the greatest possible assistance when it is most needed. It is anticipated that the physicians throughout the country will be drawn into existing community hospitals and emergency civil defense hospitals in the immediate post-attack period, and that they will have to provide leadership for both medical care and preventive health services. Accordingly, we are developing a Bureau of Health Operations within the National Emergency Health Structure which brings together these two activities along with the necessary supportive laboratory activities.

The *major problems* that will make the provision of health services in case of enemy attack so difficult include:

The marked *disparity* that will exist between the resources that remain after attack and the requirements for these resources in casualty and non-casualty care; and

The *radiation fallout* that may interdict

prompt response and rescue as well as create additional casualties. Food and water may be contaminated and essential services such as heat, water, food, and medical care may be denied for extended periods of time.

At the National level, we see it necessary to establish three bureaus to assist the State and local communities in these major problem areas. The Bureau of Health Manpower is concerned with development of pre-attack mobilization readiness, including training. Post-attack the Bureau will concentrate on the highest possible utilization of skills, and public information programs direeted toward fallout protection and self-help measure. A Bureau of Health Material will exert every effort pre-attack to stockpile health material and to arrange for post-attack distribution both from the stockpile which we are making as accessible to you as possible and from industry which manufactures needed health material. A Bureau of Water Supply has been established to ensure the availability of safe water for all uses. Individuals with special competencies have, of course, been brought together in the Division of Food and Drugs, in the Bureau of Health Operations.

Additional Post-attack Problems that must be considered are the increases in morbidity and mortality that will result from:

Destruction of water systems;
Destruction of sewerage systems;
Loss of essential health services;
Lack of shelter, clothing, fuel;
Increased insects and rodents;
Overcrowding and inadequate food; and
Psychological disturbances.

The use of *Biological* and *Chemical* warfare agents will pose additional problems.

Both may be used pre- and post-attack or concommitant with thermonuclear weapons;

Both can be used in either a covert or overt manner;

Both agents are effective and are difficult to recognize and counteract.

Although it is common to group these two agents together, the only real similarity between chemical and biological warfare is in the method of dissemination. The most likely use of either would be with various devices capable of producing large numbers of very small airborne particles or aerosols.

The primary site of entry of these particles into the body is through the respiratory tract or, in the case of certain chemical agents, through the skin.

Most people believe chemical warfare agents stand behind nuclear and biological weapons as to likely choice by the enemy for use against cities of the United States. However, to give you an idea of the effectiveness of the agent, we know that something approaching the minimum payload of an average missile can easily support the dissemination of the chemical over an area with a one-mile radius. The distribution of the agent within such a circle will not be uniform, but it will be sufficient to ensure that about 30 per cent of the persons within that area will be casualties within 60 seconds!

The lag-time between the time of use of a nuclear weapon and the time its effect is manifest is measured in micro-seconds, and with chemical weapons in seconds or minutes. In the case of biological agents, however, the lag-time must be measured in hours, days, or weeks.

These are versatile weapons that pose significant problems in health mobilization planning.

With this brief look at the mission of emergency health services and some of the major problems we will face in an allout attack upon this country, let us review some of the elements of emergency planning.

The *Basic Elements of the Medical Plan* must include measures to:

Minimize the number of casualtics that will result from the attack, including shelter, evacuation, stockpiling, special weapon defense, public information, training, and many others;

Develop capability to provide mass casualty care, including education of the populace in first aid and self-care; organization of emergency

health services; stockpiling of resources and training;

Develop capability of the community to organize and institute efficient emergency health services including re-establishment of preventive health controls, welfare and essential services;

Develop mutual assistance plans with adjacent areas despite local or State boundaries in order that the most efficient management of available health resources can be realized.

In developing or evaluating the community *Medical Plan*, one must consider:

Basic assumptions and estimates:
Possible courses of action;
The designation of responsibilities and actions of specified individuals;
The designation of alternates to key positions.

Certain *assumptions* are basic and are contained in the National Plan, its Annexes, the State Plan, and its Annexes. From time to time, new assumptions are necessary which require revision of plans and operation. Let us consider some of the fundamental assumptions:

Disparity between available resources and the requirements for those resources is the most controlling assumption we must deal with. This deficiency of resources requires such measures as self-help; expanded responsibilities for health personnel; improvisation of facilities, supplies, and equipment; stockpiling; triage; standardized treatment procedures; and many others.

We must assume *prior training* is essential to implementing any emergency plan. This training must be organizationally and operationally oriented if it is to be effective.

Communication will be limited or not available. The loss of this essential service requires that all personnel have a thorough knowledge of the total plan and their specific job in order that operations will remain coordinated.

There will be widespread destruction or denial of *hospital* and *medical facilities*. Emergency hospital units must be stockpiled in non-target areas; treatment facilities must be improvised; and, reliance must be placed on self- or neighbor-care.

It must be assumed that due to fallout most communities will experience *a delay* of days or weeks before *organized medical care* can be instituted. This, again, emphasizes the importance of self- and neighbor-care; personal stockpiles of food, water, and medical survival items; and training of the general population in personal survival.

It must be assumed that *biological* and *chemical warfare* agents will be used. Every effort must be made to supply protective measures against these agents as they become available. Training in self protection, decontamination, and treatment is essential.

Within the frame of reference of these assumptions, the *Health Operations Plan* must provide for and describe in some detail the situation for which it is developed and the support and resources that are available to implement the plan.

It should designate who is responsible for activating the plan; how key personnel are to be notified; where control points are located; and the specific actions that are to be taken initially.

Special professional instructions covering organization of sub units, treatment procedures, use of medical and health supplies and equipment, and specific activities in respect to time and space must be provided.

The community's plans must provide guidelines for evacuation, fire and rescue, radiation monitoring, special measures for CW and BW, preventive medicine, emergency sanitation, mortuary services, registration and the specific ways and means to be used to test the feasibility of these measures.

In addition, the measures that are to be used to preserve or restore communications, supplies, and essential records must be described in detail. Finally, the methods to be used in providing the essential training to all personnel necessary to ensure successful operations in the event of disaster should be included in the plan.

It is basic to any planning that we be *guided* by the principles of:

Simplicity;

Flexibility;

Wide Distribution; and

Frequent Rehearsal.

The problems of getting widespread participation and sustained enthusiasm is difficult in this field. However, if we have clear cut plans, utilize units already in-being and prescribe procedures which are simple, flexible, and widely known, all we need is practice and rehearsal to make the transition from a paper plan to operational capability.

To ensure that our efforts following attack on our nation will be as effective as possible in assistance to the States, we have established at the national level a General Planning Staff to: 1) advise the Chief of Emergency Health Service on appropriate steps to take during an emergency. That is, priorities based on the best known intelligence — and, 2) when efforts should be directed to the return to normal.

In the *actual situation*, we must be prepared to find that the ideal operation we have planned, rehearsed, and practiced is impossible, either in part or as a whole. Multiple attacks upon the country may necessitate reversion to a primitive situation after we have established organized health services. Radiation fallout may not follow our assumptions either in direction or extent. In spite of the best planning and training, panic among key personnel may require extensive changes in our plan of operation. Finally, the unexpected loss of utilities, problems of sanitation and restoration of services may frustrate or delay the implementation of organized health services.

In spite of all these unplanned for possibilities, the community that has a plan, and has taken the necessary steps to develop a capability of implementing the plan, will find itself well prepared to adjust to varying conditions. Planning prepares us to make a wise alliance with circumstances.

IN SUMMARY

The steps necessary to "get something done" in health mobilization will be essentially the same, regardless of the causative factors of the disease and the actual situation that results. The successful operation of an emergency health service program depends upon:

Aggressive leadership;

Efficient use of available supplies, equipment, and facilities;

Intensive training, operational practice and rehearsal;

A civilian force-in-being, mission oriented;

A response to certain basic requirements such as provision of shelter, stockpiling essential supplies, and knowledge of survival principles; and a sound plan of operation including the appropriate organizational structure.

As we see it from the national perspective, the organization which would be most useful in assisting you is the Federal Emergency Health Service. In this organization the General Planning Staff is located so as to assist the director as needed; the Bureau of Health Manpower is constituted to help train and utilize personnel; the Bureau of Material is designed to determine requirements, claim needed supplies, and get them to you; the Bureau of Water Supply claims and allocates water needed; and the Bureau of Health Operations is concerned with medical care, preventive services and the supporting laboratory services.

The road to operational capability and "getting something done" is long, rough, and fraught with many discouraging setbacks. We need constant assurance, motivation, and stimulation. The newcomer to the field usually starts out with marked enthusiasm only to become discouraged at how difficult it is to get support, to demonstrate measurable progress, and to find something tangible enough that he can get his hands on it.

In civil defense, we must do more than bring forth ideas. We must plan how to make the ideas effective and, more important, how to push the plans through to successful completion. This requires steady sustained effort on the part of the entire community.

There is a tendency to look for an easy way to bypass all the difficult, detailed work that is necessary to develop a real civil defense capa-

bility. Ella Wheeler Wilcox described this in one of her poems; "The fault of the age is a mad endeavor to leap to heights that were made to climb."

In health mobilization we must base our operational plans upon the resources that are actually available rather than wistfully planning what we would like to have to do the job in an ideal manner. By basing the plan upon what is actually on hand, we have the capability to go into operation immediately if necessary. In the meantime, we can persist in our efforts to increase our capability by adding to our resources.

Choosing the facts upon which to base our plans is not a matter of pecking like a chicken in a barnyard, finding a fact here and there. We must be selective, and, when we look beyond the official guidelines provided by OCDM and our State Civil Defense Office, we must be careful to isolate what is essential and reliable from the opinion and fancy in which they may be embedded.

In closing, I would like to say a few words about some of the cynics — many, unfortunately, in positions of authority — who claim there is nothing that can be done in civil defense. It seems to me ever since the Russians sent up a few rockets, we have had a field day in this country finding fault with ourselves. And, the popularity of the "Doubting Thomas Critic" indicates it is more fashionable to ask penetrating questions than to make practical suggestions.

Many people who are destructively criticizing civil defense efforts are quite honest but have not taken the trouble to learn the facts. Others are simply trying to prop up a pet project with a cobweb of ill conceived words. A few just love a well-turned insult for its own sake and it makes little difference to them at whom or what it is projected.

Regardless of what motivates these people, their irresponsible criticism has seriously hampered efforts to develop this country's capability for non-military defense. What is even more important, the degree of capability that has been achieved, will not serve as effectively as it should in deterring attack upon this country.

The combination of strong military offensive power and non-military defensive capability provides a new high deterrence index to war. And, in assessing this index, as General Powers points out, it's much more important what the potential enemy thinks we can do than what we think ourselves.

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

DRIPPS, ECKENHOFF AND VANDAM — INTRODUCTION TO ANESTHESIA — An ideal basic guide to the understanding and safe administration of anesthesia.

CORDAY AND IRVING — DISTURBANCES OF HEART RATE, RHYTHM AND CONDUCTION — Covers management of *all* the cardiac arrhythmias and conduction defects.

When it's more like "grippe" or



"flu" than a simple cold, but an antibiotic is not indicated... prescribe NEW WIN-CODIN* Tablets

New Win-Codin tablets provide greater symptomatic relief from influenza, colds and sinusitis than do simple analgesic-antihistamine combinations. New Win-Codin tablets contain a full complement of the most effective agents available to relieve general discomfort, bring down fever and lessen congestive symptoms.

Each tablet contains:

Codeine phosphate 15 mg.—to relieve local and generalized pain and control dry cough

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Acetylsalicyclic acid 300 mg. (5 grains)—to reduce fever and relieve aching

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Ascorbic acid (vitamin C) 50 mg.—to increase resistance to infections†

New Win-Codin tablets will bring more comfort to many patients suffering from severe colds, influenza or sinusitis.

Average dose: Adults, 1 or 2 tablets three times daily; children 6 to 12 years, from ½ to 1 tablet three times daily.

Available in bottles of 100 (Class B narcotic).

Winthrop LABORATORIES New York 18, N. Y.

*Trademark †For persons with vitamin C deficiency
Neo-Synephrine (brand of phenylephrine), trademark reg. U. S. Pat. Off.

Available only to physicians for their distribution—

Complete Cholesterol Depressant Menus and Recipe Book

A new, authoritative patient-aid . . . for professional distribution only

Now available for use in your practice from The Wesson People . . . easy-to-use manual of 40 pages, including all necessary diet instructions . . . menus, recipes, shopping and cooking guidance . . . all worked out for you . . . so arranged and printed that you have only to check the desired daily calorie level before giving the book to your patient.

You will find this book invaluable for treating patients with elevated serum cholesterol.

Complete menus for 10 days enable you to prescribe diets which are appetizing, nutritiously adequate and which can exert cholesterol depressant activity. Special attention has been given to constructing the menu patterns so that they adhere as closely as permissible to the patient's normal eating habits.

NRC Standards fulfilled. Each menu has been calculated to provide the proper daily allowance of proteins, vitamins and other nutrients as recommended by the Food and Nutrition Board of the National Research Council.

Weight control is achieved as each day's menu is given at 3 calorie levels—1200, 1800 and 2600 calories. You prescribe the level most desirable and modify as desired.

Variety and appetite appeal for patient are built into the menu plan to an extent not previously accomplished. Alternate choices for main dishes minimize monotony, encourage the patient to follow closely the menu plan you specify.

Complete recipes—65 in all—are included to assure that the specified menus provide prescribed levels of calories, the pre-determined ratio of poly-unsaturated to saturated fat, plus essential nutrients.

Dietary fat is controlled so that approximately 36% of the total calories are derived from fat and at least 40% of these fat calories are from poly-unsaturated components (linoleates) as found in pure vegetable oil. The replacement of saturated dietary fat by this percentage of poly-unsaturated fat has been found in clinical studies most effective in the reduction of serum cholesterol and in its maintenance at desirable levels. More liberal menus are provided for maintenance after the patient's progress indicates that desired therapeutic results have been accomplished.

Family meal preparation is simplified. The menus are planned around favorite foods having wide appetite appeal for all members of the household. Patients can entertain in comfort—enjoy cakes, cookies, snacks, prepared with recipes which meet medical requirements.

A high degree of satiety is achieved even at the lower calorie levels, because Wesson provides an unexcelled source of concentrated, slow-burning food energy.

Adaptable for use with diabetics. Carbohydrates have been calculated to fall within the acceptable range for patients to whom a diet planned for diabetes is important. Calories, which must be supplied from fat when the carbohydrate intake is limited, are provided by desirable poly-unsaturated vegetable oil.

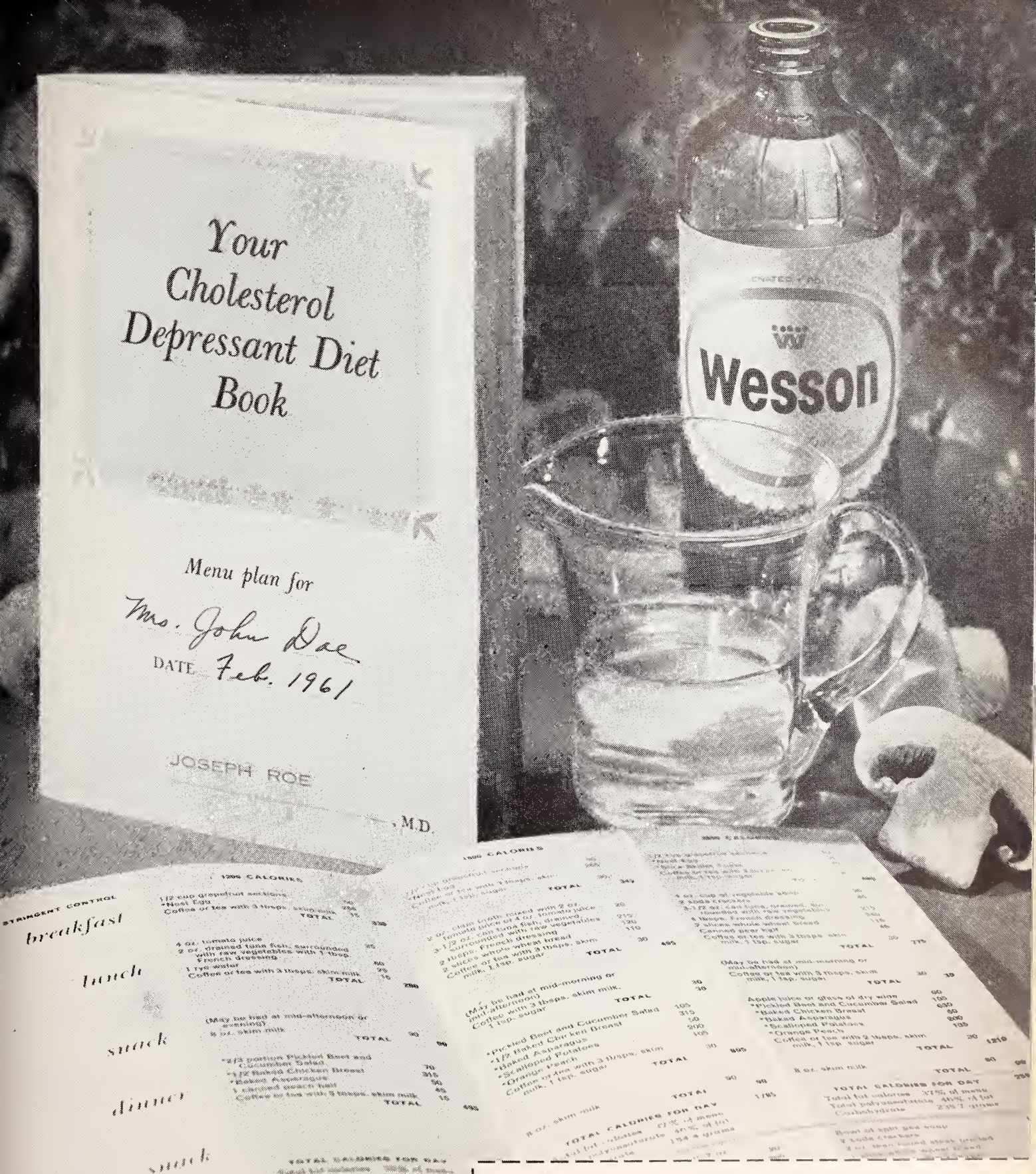
WESSON'S IMPORTANT CONSTITUENTS

Wesson is 100% cottonseed oil—winterized and of selected quality

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"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

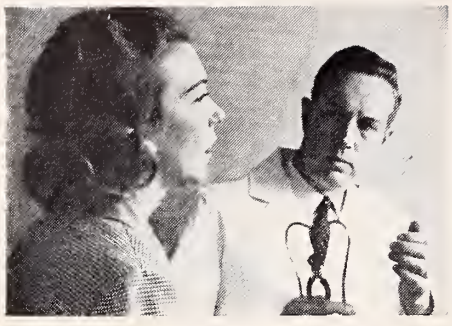
digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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*Gamble, C. J.: Am. Pract. & Digest Treat. *11*:852 (Oct.) 1960. See also Berberian, D. A., and Slighter, R. G.: J.A.M.A. *168*:2257 (Dec. 27) 1958; Olson, H. J.; Wolf, L.; Behne, D.; Ungerleider, J., and Tyler, E. T.: California Med. *94*:292 (May) 1961; Kaufman, S.A.: Obst. & Gynec. *15*:401 (Mar.) 1960; Warner, M.P.:J.Am. M. Women's A. *14*:412 (May) 1959.

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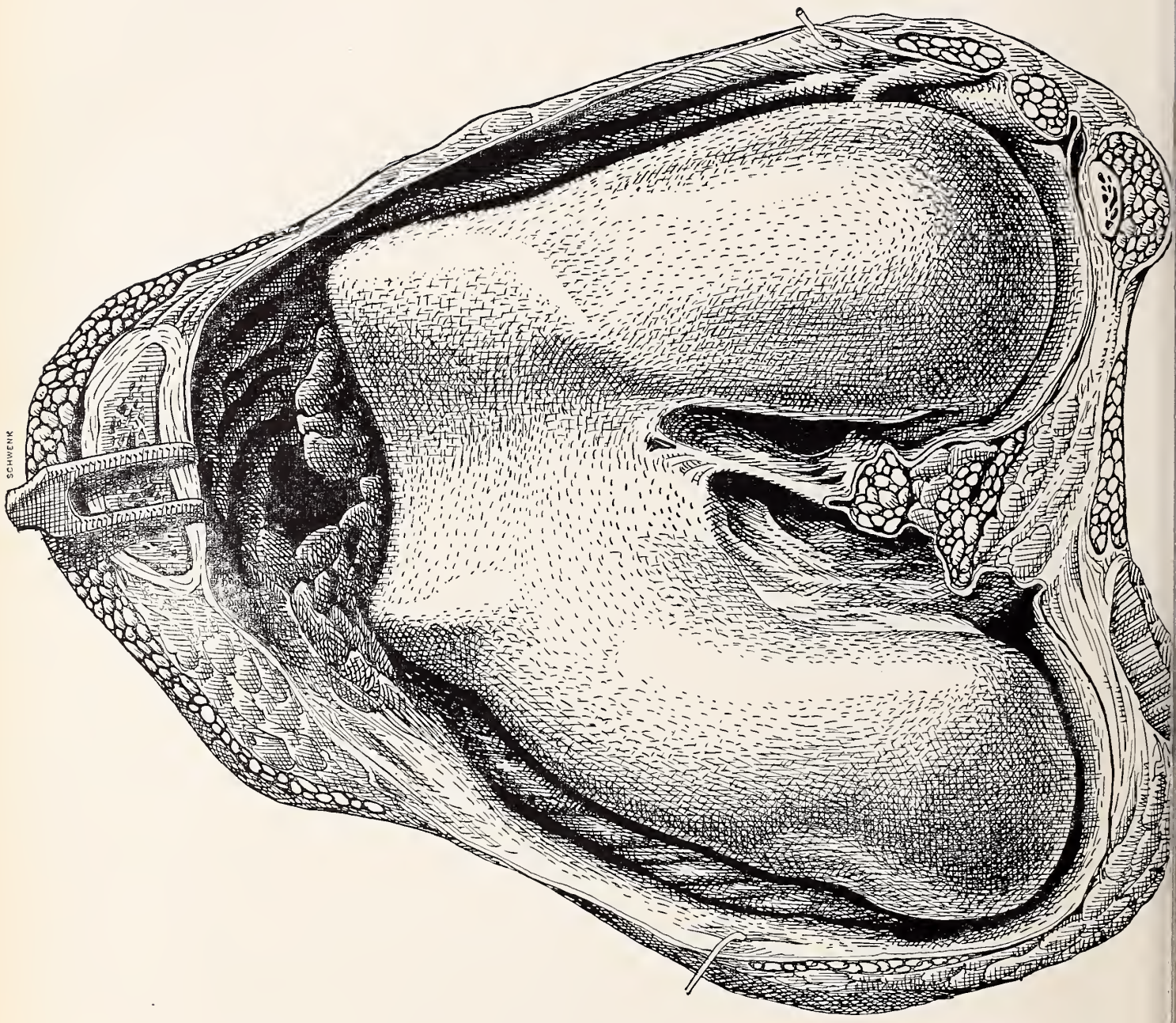
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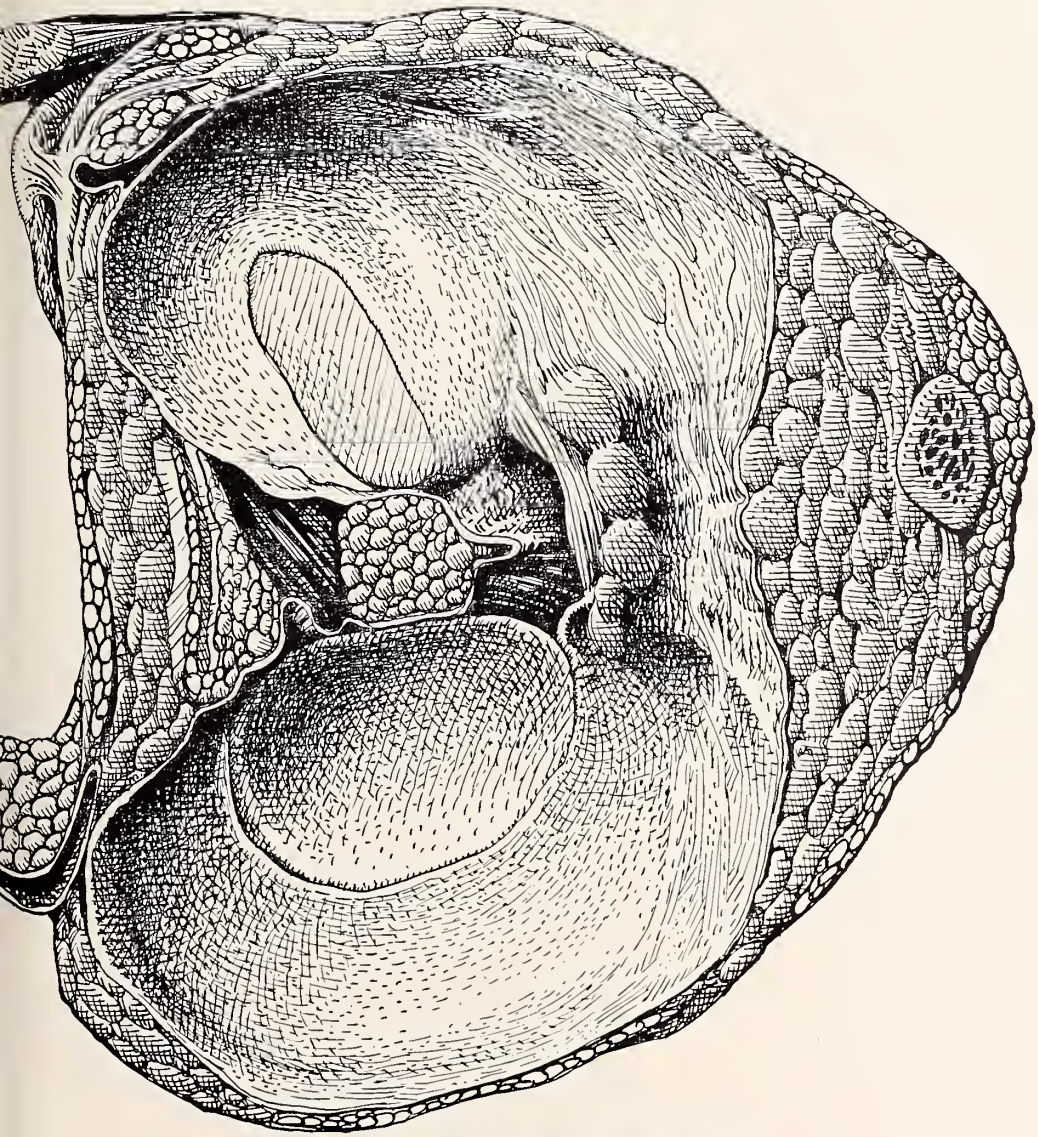
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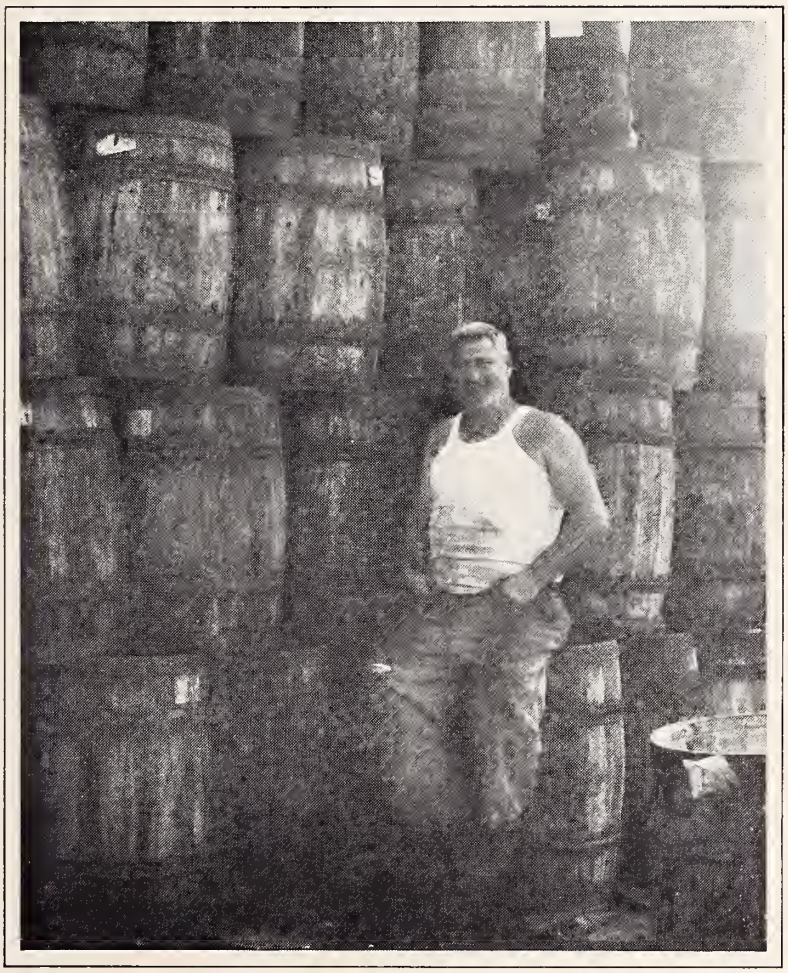
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Medical Society of the United States and Mexico

The program for the forthcoming gathering of the Medical Society of the United States and Mexico in Hermosillo is acquiring both shape and substance, though still in a tentative stage. New features, heretofore never exploited in our meetings, will be three symposia or round tables and one clinical pathological conference.

In addition to the program items previously mentioned in earlier issues, the order of events will be somewhat like this:

Wednesday, December 6th

11:00-11:30 a.m.	Inaugural ceremonies at the University of Sonora with the Governors and other dignitaries.
11:30-12:00	Dr. Maxwell Lockie — Present Day Rheumatological Classifications.
12:00-12:30	Dr. John Nauman — The Radiological Diagnosis of Diffuse Osteosclerosis with Special Reference to fluorsis.
12:30- 1:00	Rest Period
1:00- 1:15	Question and Answer Period
1:15- 1:45	Dr. Frederick Knight — Experiences in the social and professional aspects of inter-American physician exchange, a look at the future.
1:45- 3:00	Buffet at the Brewery.
7:00-12:00 MN	Open house gatherings at the homes of Hermosillo physicians.

Thursday, December 7th

9:30-10:00 a.m.	Dr. Richard Freyberg — Rheumatoid Arthritis.
10:00-11:00	Symposium on hyperthyroidism by the Faculty of The University of Guadalajara Medical School.
11:00-11:30	Dr. R. E. Hastings — Osteo synthesis.
11:30-12:00	Dr. B. Sepúlveda — Viral hepatitis.
12:00-12:15	Rest Period
12:15- 1:15	Symposium on Coccidioidomycosis. Drs. G. Madrid, O. J. Farness, J. O'Hare, A. Carajal, J. Fritz, J. Nauman.
1:15- 1:30	Question and Answer Period
1:30 p.m.	Free Afternoon
8:00 p.m.	Dinner at the Mesquital del Oro Poultry Farm with exhibition of native costumes.

Friday, December 8th

9:30-10:30 a.m.	Symposium on Gastro-intestinal surgery. The Surgical Management of Peptic Ulcer — "How I Do It." Drs. J. Chavez, W. R. Manning, J. Cadena, B. Contreras, L. Dragstedt, C. Lopez Arias, H. Pennock Bravo.
10:30-11:30	Symposium on Tuberculosis of bone. Drs. Chardi, A. Perez, C. Tapia, R. Hastings.
11:30-12:00	Dr. W. E. Aherns — Internship and residency training in the U. S. for foreign graduates, past, present and future.
12:00-12:30	Clinical Pathological conference.
12:30- 1:00 p.m.	Business Meeting
2:30 p.m.	Governor's Banquet
8:00 p.m.	Dinner Dance

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MEDICAL DIRECTOR

October 1, 1961

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If you would like a copy of our schedule of benefits for surgical procedures, just drop me a line and I will be happy to see that you receive one.

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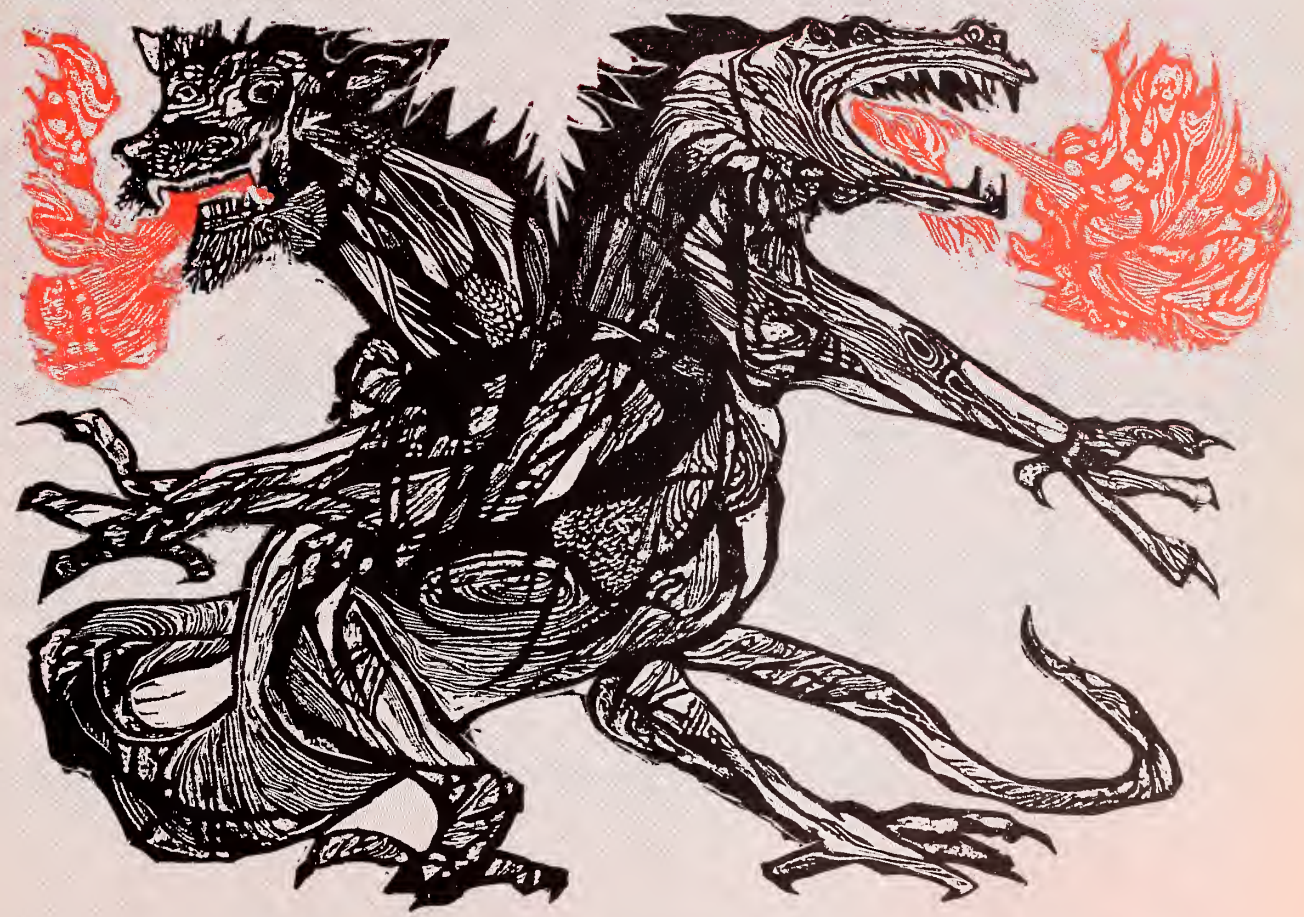
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The President's Page

Letter to Doctor Smith

Carl M. Bengs, M.D.



Leslie B. Smith, M.D.

August 11, 1961

Dear Doctor Smith:

I am sure you have read Lindsey Beaton's August editorial, The Brainwashed Doctor, suggesting that us old conservative fossils get with it and read both sides of our current political problems so that we might better analyze, review and possibly change our heretofore "defenders of the right" position. This liberal compulsion to "examine all sides of a problem" sounds great but so often has seemed to lead the liberal to the conclusion that all sides are *equal.* The points of view expressed in the liberal journals Dr. Beaton recommends have so often led us to national calamities, as the articles in the *Atlantic* lauding the Chinese Communists as agrarian reformers written by the Communist, Agnes Smedley, the New York Times' pro-Castro propaganda, etc, etc. Should we also weigh both sides of good-evil, truth-falsehood, euthanasia?

Doctor Beaton has a perfect right to his viewpoint but these monthly invitations to liberal brainwashing are not countered elsewhere in the magazine. In fact, this issue, under "Editor's Notes," we are treated to samples of editorial opinions telling us that many moral questions of today are society's (the mob) not the individual doctor's; a plug for federal aid to medical schools, and a variety of thought-provoking issues (with implied answers that are plain "provoking").

Sorry for the logorrhea. My hope is that your President's Page will reflect the "other side" of The Brainwashed Doctor Beaton.

Sincerely,
Carl M. Bengs, M.D.
411 Eighth Street
Yuma, Arizona

NOTE:

Some of my reactions to Doctor Beaton's Editorial referred to above are expressed in this issue in a letter to the editor. This letter was formulated prior to my receipt of Doctor Bengs' comments.

Leslie B. Smith, M.D.
President

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for the tense and nervous patient

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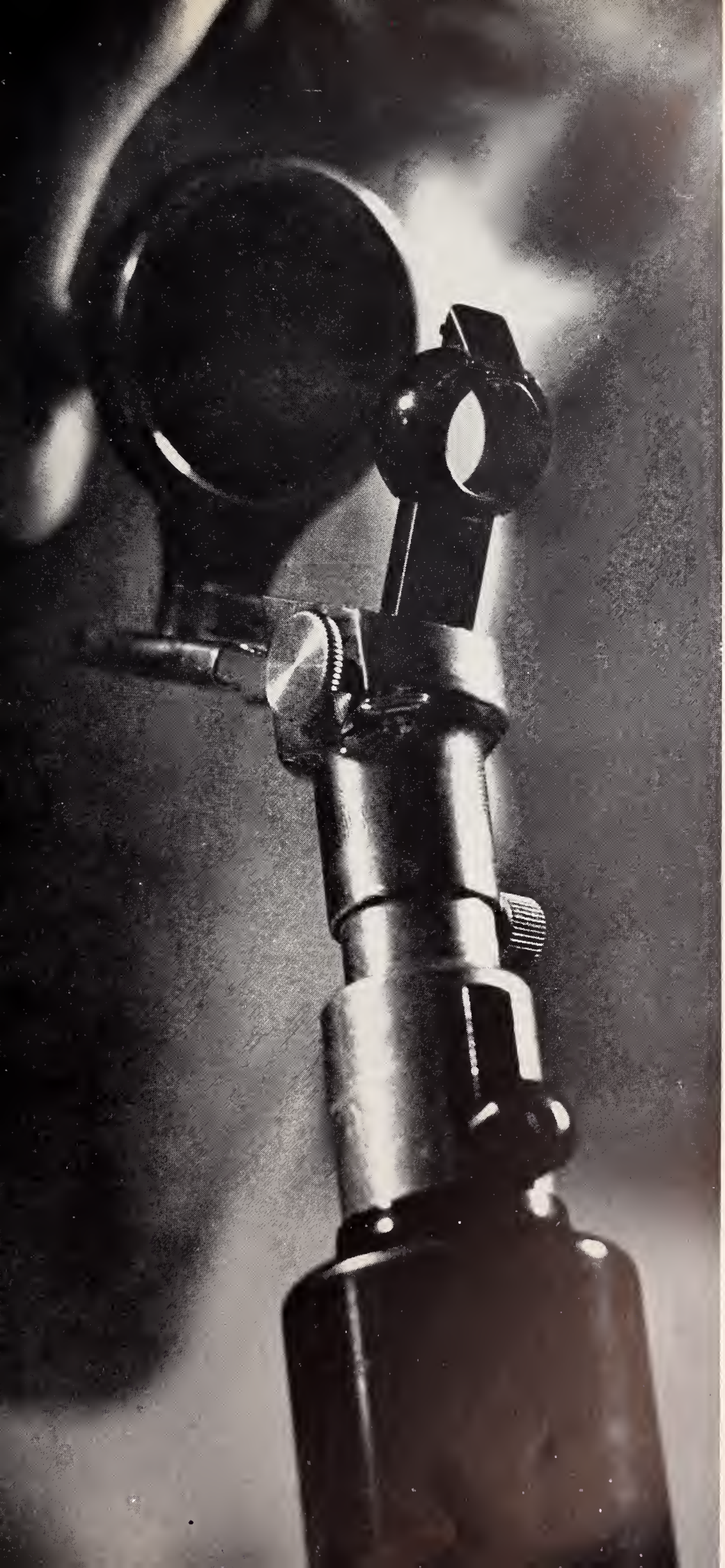
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CAUTION: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken. Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.

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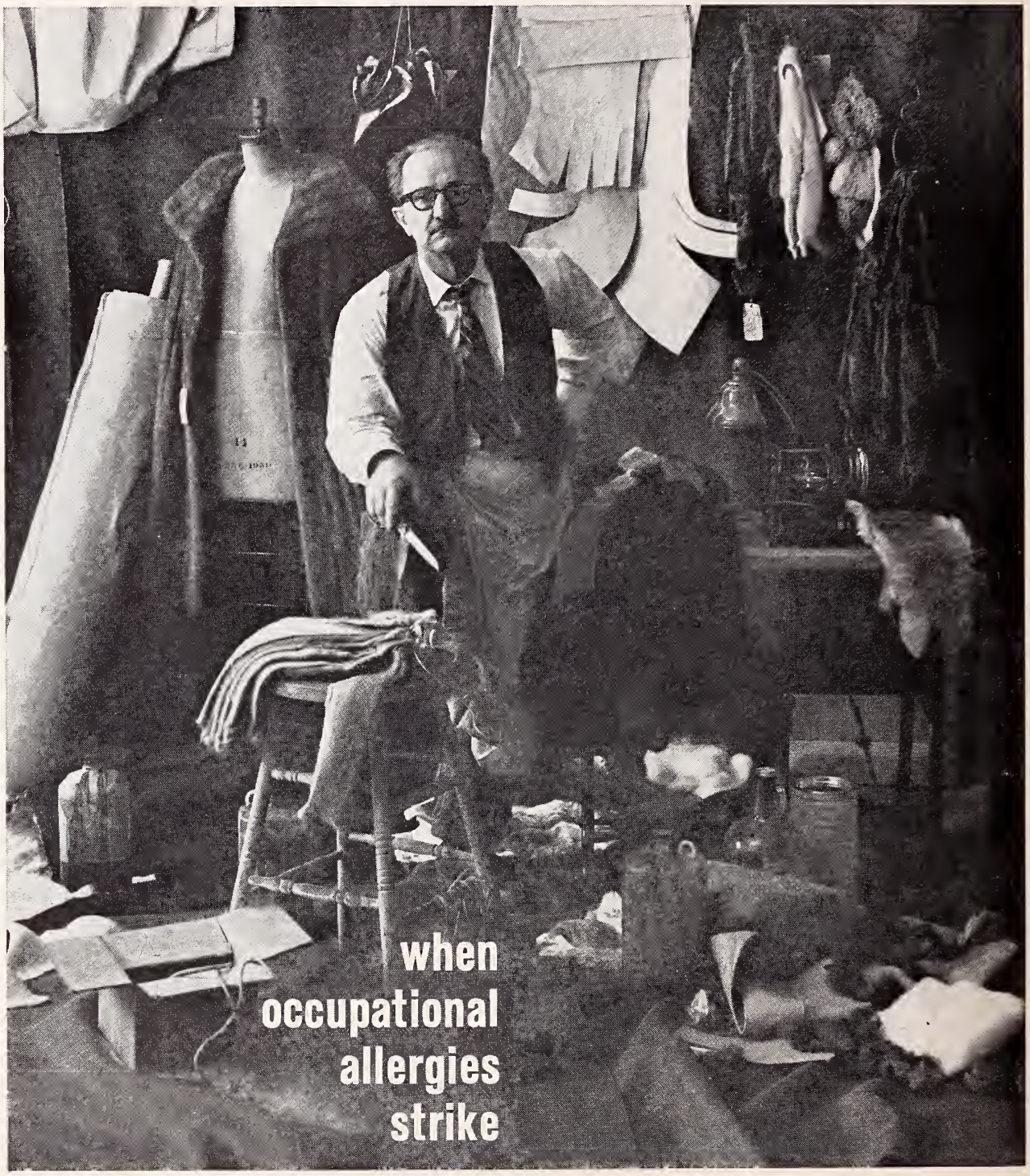
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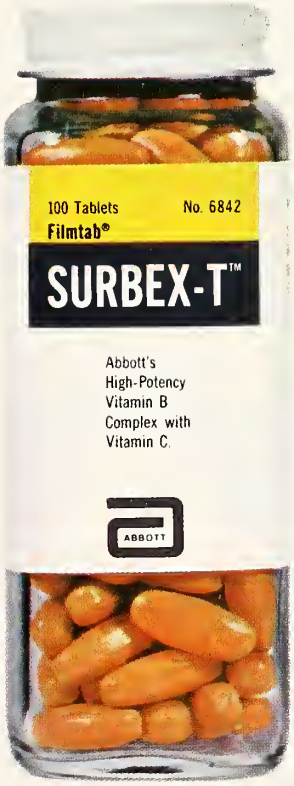
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No water is used in the Filmtab process. Potency is enhanced as there is virtually no chance of moisture degradation to nutrients. Shellac sub-seal barriers are not needed or used.

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Odor and after-taste are sealed inside the colorful Filmtab.

Tablets are up to 30% smaller, and *much* easier to swallow.

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Editorials

The Preservation of Health

"Either we pay to preserve health or we pay to repair it."

The goal of the medical and health professions now calls for the promotion of health, the prevention of disease, the detection and treatment of disease at the earliest moment to prevent disabling sequelae, the limiting of disability to the greatest extent possible if disease becomes established, and the restoration of the individual to his most useful practicable functioning when permanent disability is inevitable.

In any time and place there are both limiting and liberating factors in attaining improved health conditions, however defined and measured. The overall limiting factor is the nature of life itself; the biological stage of development of the individual, the inherent strengths in each stage which can be supported, the weaknesses that can be counteracted, and finally the absolute limit imposed by death, which comes to all. Thus, the life span sets the ultimate limit, and the level of well-being must be raised within this limit.

There is nearly universal agreement that one of the most important steps a person can take to safeguard his health is to have periodic physical

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accept for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

Editorials of Arizona Medicine are the opinions of the authors and do not necessarily represent the official stand of The Arizona Medical Association. The opinions of the Board of Directors may be sought in the published proceedings of that body.

examinations by a competent physician. A proper health-maintenance examination consists of a medical history, a complete physical examination, and the performance of certain laboratory tests and procedures followed by a counseling session for the health guidance of the patient.

A survey of a national sample of adults in the United States in 1955 revealed that 80 per cent of those sampled agreed that a person should see a doctor for a regular check-up even though he feels well. However, only 29 per cent of this group reported that they themselves get such check-ups regularly. The same survey included a sample of physicians. Only 45 per cent of these doctors said that they made a point of recommending periodic physical examinations to most of their patients. Still, most of the doctors thought that people are more likely to see a physician early than was the case ten years ago. This observation is also borne out by a 1928-31 study which showed that only about 50 per cent of the population would see a doctor even once during any given year; currently, about 65-70 per cent see a doctor one or more times during an average 12-month period.

The frequency of health check-ups should depend upon one's age and the state of one's health. In the ideal situation, the periodic examination begins with monthly check-ups in infancy, lengthens to quarterly visits after the first year of life, changes to semi-annual examinations for the pre-school child and to biennial check-ups for the school child and young adult, and ends with annual investigations for those over 45 years.

The ideal health examination is seldom achieved. Most so-called "check-ups" are skimpy. One reason is that the cost of a complete examination on an individual basis is high. Also, examinations are sometimes superficial because many physicians are oriented more toward caring for the sick than toward maintaining health. Obstetricians and pediatricians have succeeded to a considerable extent in directing their efforts toward health maintenance. It is questionable, too, whether there are enough physicians at the present time to provide this type of service for the majority of the American people.

It is said that four out of five persons over 65 years of age have a chronic disease of some kind; and that in the 45-65 group, slightly more than half were similarly afflicted. Surely, it is logical to look for evidence of these diseases as early as possible, for while periodic check-ups will not prevent the occurrence of such illnesses, they can frequently provide a method by which the complications of some of these diseases can be prevented or alleviated. One of the great values of the health examination is that it provides the physician with a base-line of normality for his patient. It is the deviation from the individual norm which is the sign that some change is occurring and this may be the first evidence of the appearance of an acute or chronic disease.

There is everything to be gained and nothing to be lost in having a periodic medical check-up. The sick have first claim on our medical attention, but a doctor is surely doing as much good if he keeps his patients well. In achieving this, periodic medical check-ups will be his most useful tool. If every doctor in practice would make only two periodic examinations daily, he could see approximately five hundred people annually.

Since time, costs, personnel shortages and other factors preclude the possibility of regular comprehensive health examinations for the majority of the population, relatively simple and inexpensive procedures are needed to sort out those persons with probable evidence of chronic disease so that they may be referred for diagnosis and medical care. To help solve this problem the idea of a multitest clinic has arisen. This type of clinic screens people for several diseases at one time by means of various tests. One blood sample may be tested for signs of diabetes, anemia and syphilis; the same chest X-ray may be inspected for evidence of tuberculosis, lung cancer and heart defects; the urine sample can be examined for diabetes and kidney disorders. Multiple screening is not intended to diagnose diseases, but to discover persons who have need of consulting physicians for diagnosis and treatment. The cost per person screened is very low; little time is required for the tests; and large population groups can be screened within a relatively short time. Multiphasic screening is not a substitute for comprehensive medical examinations and is not intended as such. It is designed for the early detection of significant abnormalities in large population groups. These surveys should be jointly planned and carried out by the medical profession, health departments and voluntary health agencies. As new techniques for the early detection of disease processes becomes

available, it is probable that the scope of such surveys can be usefully increased.

Based on: *An Examination of the Concept of Preventive Medicine* — by Odin W. Anderson and George Rosen. Health Information Foundation — Research Series No. 12, New York, 1960.

"Check-Ups: Safeguarding Your Health" — by Michael H.K. Irwin, M.D., Public Affairs Pamphlet No. 314, Public Affairs Committee, Inc., New York, 1961.

Hugh H. Smith, M.D., M.P.H.

EDITOR'S NOTES

Do the Russians have a good lead in experimenting in the treatment of ulcers by anesthetizing the patient over a period of weeks and feeding him intravenously?

* * *

Is the lay press correct in quoting "a new national epidemic" of an alarming number of children being beaten by frustrated parents? Or, are we as phyiscians mis-diagnosing and accepting the statement that the child "fell from a crib?" Should we be more suspicious of this group of injuries?

* * *

" . . . the Supreme Court upheld him on the grounds that 'the evidentiary rule of *res ipsa loquitar* . . . is not applicable in malpractice cases.'"

"The Physician's Legal Brief"
Vol. 3, No. 7, July 1961

"The courts have ruled consistently that private hospitals can pick their staffs with only minimal legal supervision but the trend now is to hold that even in a public hospital fully licensed physicians do not have a guaranteed right to use its surgical and other facilities for the care of their patients."

"The Physician's Legal Brief"
Vol. 3, No. 7, July 1961

* * *

Government by the people through their representatives has tended toward social and economic liberalism to the verge of radicalism in these matters; the medical profession and its leaders have tended toward conservatism to the point of reaction, and somewhere in between must lie the most equitable, the most effective and the most reasonable course.

The New England Journal of Medicine
July 20, 1961, Vol. 265, No. 3

* * *

. . . Of the 220,000 indexable medical articles published each year.

The New England Journal of Medicine
July 20, 1961, Vol. 265, No. 3

LETTERS TO THE EDITOR

August 16, 1961

Editor, Arizona Medicine
720 North Country Club Road
Tucson, Arizona

Dear Doctor Neubauer:

Some of the premises and conclusions expressed in "The Brainwashed Doctor" — *Arizona Medicine,* August 1961, are offensive presumptions.

The word brainwashing is defined as "the systematic indoctrination which changes or undermines one's political convictions".

The author of "The Brainwashed Doctor" in the first paragraph relates that physicians correctly apply their training and knowledge in arriving at the proper conclusions and the determination of medical facts. He relates that they do this by "research — controlled observations — experience — clinical wisdom — (and) appeal to authority".

He further qualifies the physician as a sound thinker with intellectual balance in that "he tries to match opposing — or differing judgments on the questions at issue" by a technique which "holds every decision as only tentative, subject to constant review and to change in the light of altering evidence".

In the first paragraph Dr. Beaton establishes physicians as true logicians, whereas in the second paragraph, he proceeds to incongruously divest the physicians of this virtue. This he does by pointing out that in social, political and economic sciences "this same physician, this earnest advocate of scientific method" reaches conclusions — " . . . unfortunately from sources that regularly represent only one side of the debate".

Thus the physician is portrayed as having a dual personality, imbued with logic in his determination of medical facts, but whose conclusions relative to similar subjects are formulated irrationally.

He points a convicting finger at all physicians because, in his opinion, their decisions are based solely on the one-sided "AMA handouts — editorials from conservative newspapers — MIDDLEBROW magazines — and too often the kind of delusionary nonsense that is found in pamphlets circulated by reactionary PARANOIDS" (Emphasis is supplied)

Since we (physicians) are "so well informed, so cautious, so skeptical and fair-minded in medical matters," we should immediately submit to the couch to determine why we are so unilateral in selecting our sources of knowledge in other fields, and are so blindly obedient in accepting the tenets of "reactionary paranoids".

Dr. Beaton is justified in his appeal that we should all become versed in the opinions and so-called facts presented by both sides. To determine the validity of the opposing views, one must first determine the motives and goals behind the authors of the source material. If the physician has verified that certain publications are promoting doctrines which are contrary to his sincere beliefs and heritage, then it is not a sin to ignore such publications.*

During discussions with others relative to the intent of "The Brainwashed Doctor", it has been concluded that the expressions in this article are, also, worthy of being reproduced by *Harpers.*

The statement, "to begin dispassionately to construct for himself a social credo built from the best available fact" can only be interpreted to mean that we have not heretofore been dispassionate in our deductions and have arrived at fallacious conclusions by ignoring the best available facts.

Exchanges of thoughts and ideas with physicians have convinced me that nearly all are cognizant of the varied facets of our social, economic and political problems. These doctors have been critically observant in their selection of a political doctrine which will perpetuate and improve our present beneficent form of social relationships.

Sincerely,
Leslie B. Smith, M.D.

*See the President's Page.

31 July 61

Editor
Arizona Medicine

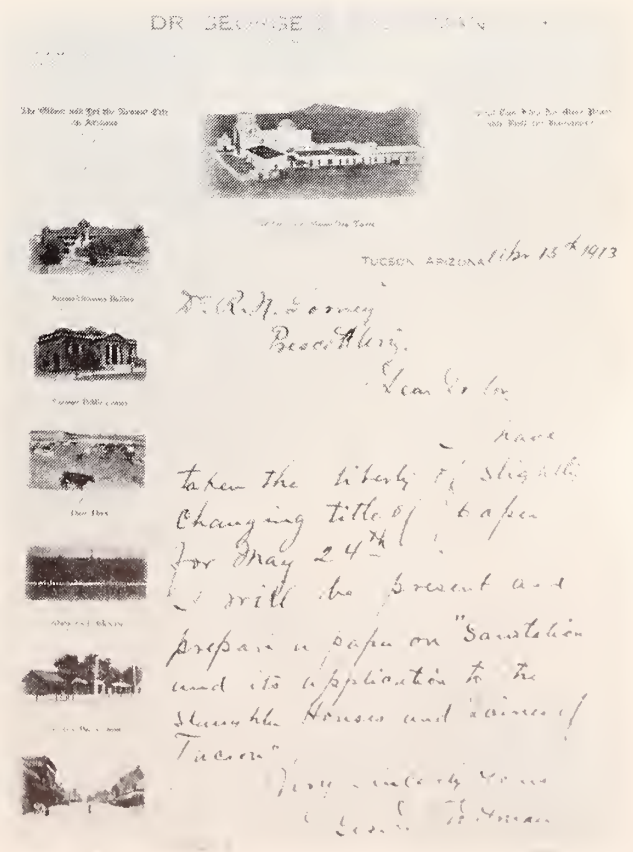
Honorable Sir:

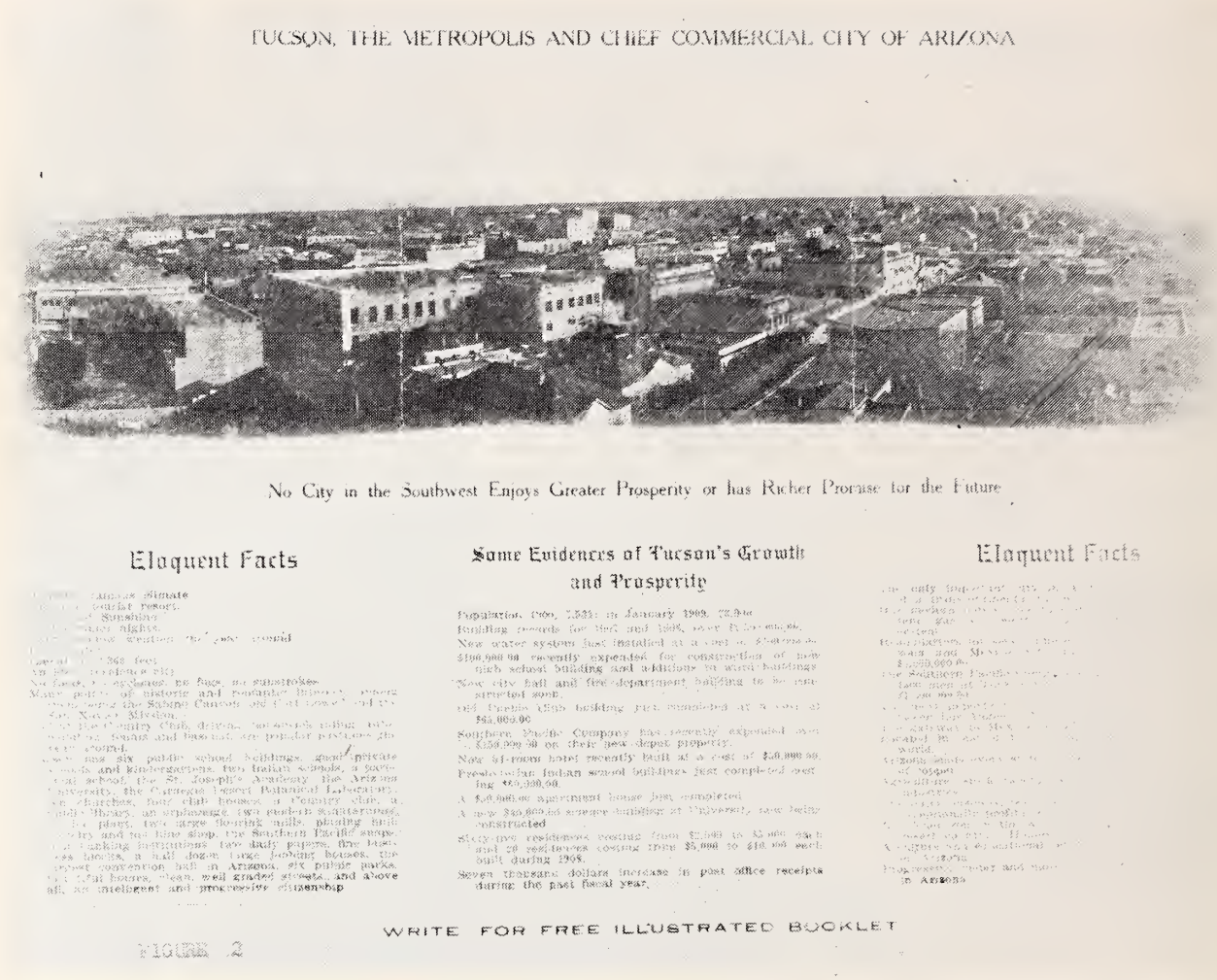
In spite of the chaste public apathy, and nihility of Civil Defence leadership, there is an opulent change of public sentiment. Despite the recent move of the Irish Maffai placing CD under the charge of the MacNamara horde, the all-out effort now is to exteriorize the faker Voker fallout.

From Camino del Diablo, Ora Blanco, Salome and points west of Ajo, the Voker fallout has given the Maricopa Moopers the philistine shelter shivers. The Pima Pushers already have fearheads as far as Florence, Casa Grande and Thatcher and have turned neutralist; the Salt River is under recanalization to transmit medical effluent.

The Pima pincher movement began long ago with careful brain swishing. See Figures 1 and 2 for 1913 examples. Note "Eloquent Facts" Fig. 2, "A Culture and Educational Center. Seat of University of Arizona"! "No fleas, no cyclones, no fogs"!

It is now rumored that the Sworrab Lacigo-





loruen Etutitsni, the Voker faker fallout shelter, Wardin Juan Verdi, incomplete though it is, is so full of Maricopa Moopers that admission is by card only.

As more intelligence settles from this faker Voker test site, be it liquid or dried, the State industrious omission will set a proper fee and disseminate same.

Dry Gulch Jake
×His mark

After careful study of the literature and other information available to them, the American Cancer Society has found no evidence that treatment with Laetrile results in any objective benefit in the treatment of cancer in human beings.

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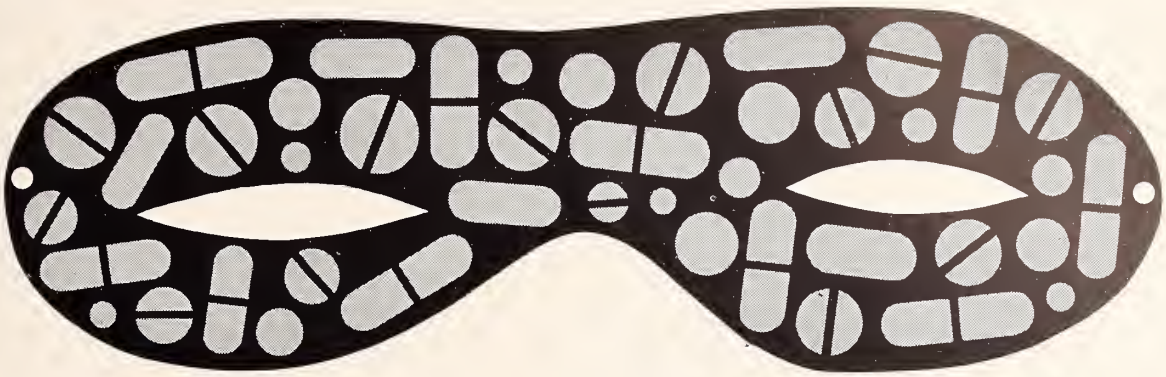
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One of the several hastily conceived and potentially dangerous suggestions for reducing drug costs is generic-name prescribing. The proponents of generic-name prescribing claim that it will lower drug costs significantly and—through supervision by the Federal Government—provide quality equivalent to that of trademarked drugs. We maintain that these claims are false. Here are some authoritative answers to the principal questions posed by generic-name prescribing.

How much money would be saved if all prescriptions were written for generic-name drugs?

"The [Rhode Island] Division of Public Assistance examined 10,000 drug prescriptions for welfare recipients for the purpose of determining the actual savings . . . of generic versus trade-name drugs. The drugs had cost $28,000. Substituting generic drugs whenever possible would have provided a saving of less than 5 per cent. Syracuse has made a similar study of drug costs with comparable results."

Rhode Island Medical Journal,
January, 1961

Are the savings worth the risk of sacrificing quality?

". . . it is unsafe [to prescribe generically] because there is not sufficient policing of our standards. . . ."

Lloyd C. Miller, Ph. D.
Director of Revision of the U.S.P.

"The naive belief that, if a product was not good, the FDA would prohibit its sale is just not realistic. . . . it is completely impossible for the FDA to check every batch of every product of every manufacturer. . . . Hence the integrity and reputation of the manufacturer assume unusual significance where drugs and health products are concerned."

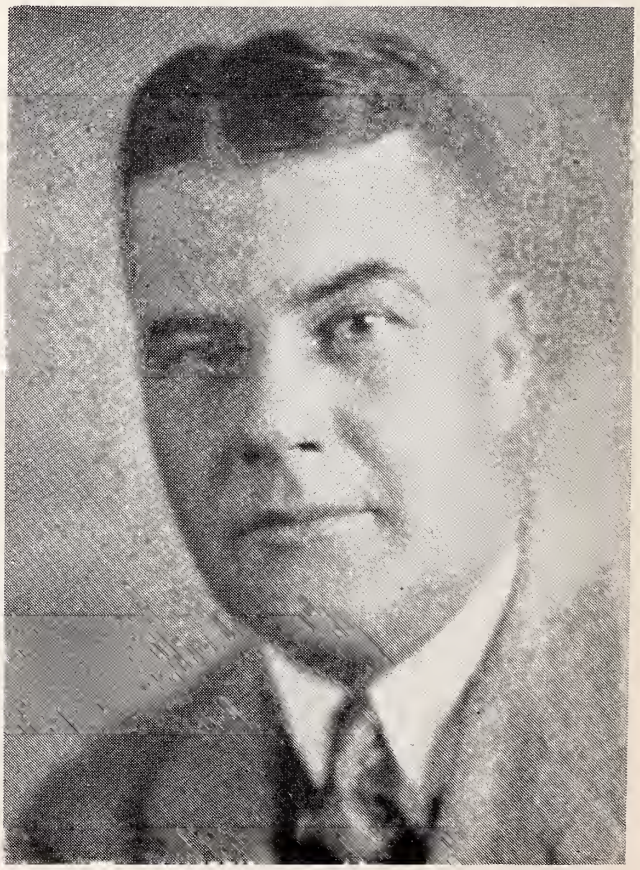
Albert H. Holland, M.D.
formerly Medical Director of the
Food and Drug Administration

Smith Kline & French Laboratories, Philadelphia

In Memoriam

Bernard L. Wyatt, M. D.

1883-1961



Dr. Bernard L. Wyatt, former Tucson physician who helped found the Desert Sanitarium, died suddenly in Las Vegas, Nevada on June 22, 1961.

Born in Tilton, New Hampshire on November 18, 1883, Dr. Wyatt received preparatory education at Tilton School and graduated from medical school at the New York University College of Medicine, New York in 1905. He began practice in Monterey, Mexico in 1905. From 1912-1915, Dr. Wyatt served as medical officer of health, District of Abaco, Bahama Islands, and in 1917 was appointed Associate Director, The Rockefeller Commission to France.

Dr. Wyatt came to Tucson in the early 1920's from New England, where he had established a private practice doing research on tuberculosis. With the late A. W. Erickson, a New York advertising man, Dr. Wyatt founded the Desert Sanitarium and Institute of Research in 1926. The institution gained world attention for its scientific research and its famous patients. In 1943, the sanitarium, then valued at $1 million, was given to Tucson to relieve an acute shortage

of hospital facilities. The following year it was converted into the Tucson Medical Center.

Dr. Wyatt was associated with the Desert Sanitarium until 1929 when he returned to pirvate practice and established the Wyatt Clinic in Tucson; he later became senior partner of the Wyatt-Bensema Clinic and Research Laboratories. In 1929 he married Laura Mae Wright, who died in 1958.

He was Consultant in Internal Medicine and Past Consultant in Health Demonstrations, State Charities Aid Association, New York; former Secretary of the Technical Board and member of the Advisory Board, Milbank Memorial Fund; founder, member of the Board of Directors, and Past President of the American Anti-Arthritis Association; member of the Board of Directors of the American Academy of Applied Nutrition; and a fellow of the American College of Physicians. He was also Consultant to the Motion Picture Relief Fund and member and Past President of the Pima Pistol Club. Dr. Wyatt was a member of the AMA, New York Academy of Medicine, Los Angeles County Medical Association, Hollywood Academy of Medicine, and the Los Angeles County Medical Society.

Dr. Wyatt received the Chevalier Legion of Honor, Medialle de la Reconnaissance Francaise; Medaille d'Honneur, Comite National Contre la Tuberculose, and was recipient of the Stacy Medal and Award, University of Cincinnati College of Medicine. He is listed in *Who's Who in America.*

He was a member of the editorial staff of "Acta Rheumatologica," of the International League Against Rheumatism. Dr. Wyatt's scientific writings included the volumes, "Chronic Arthritis and Rheumatoid Affections," and "Diognosis and Treatment of Chronic Arthritis and Fibrositis." These volumes were written "to assist in the development of the closest cooperation between the physician and patient, without countenancing either self-diagnosis or self-treatment."

Dr. Wyatt is survived by his wife, Henry Etta, whom he married in 1959 and who resides in Las Vegas, Nevada.

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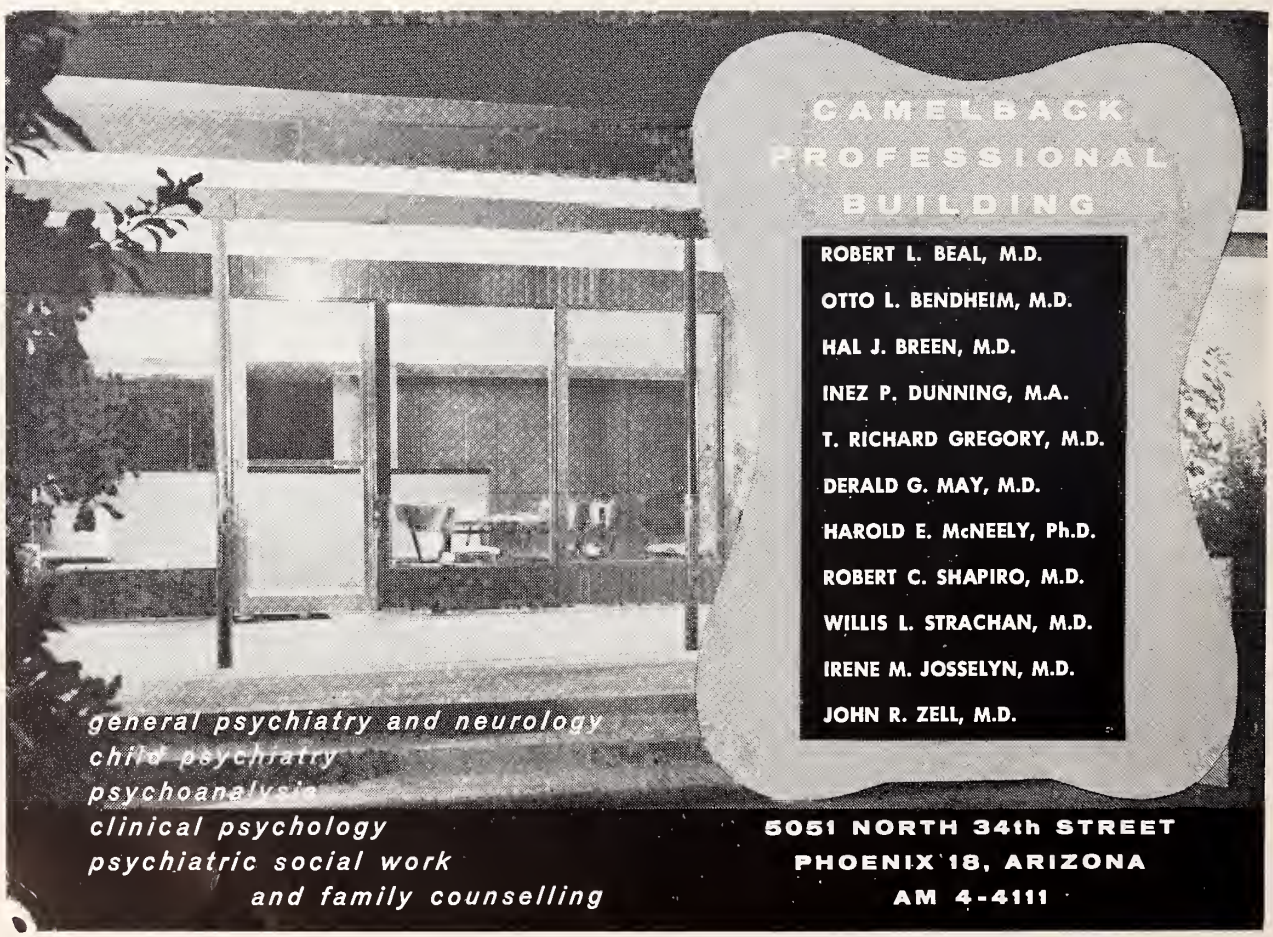
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One research project nearing completion is a measles vaccine, now undergoing extensive U. S. clinical trial. Another preparation, soon to be available, is a progestational agent which gives promise of offering distinct advantages over those presently available. A true progestin, it will have wide application in female disturbances without androgenic, estrogenic, or corticosteroid side effects.

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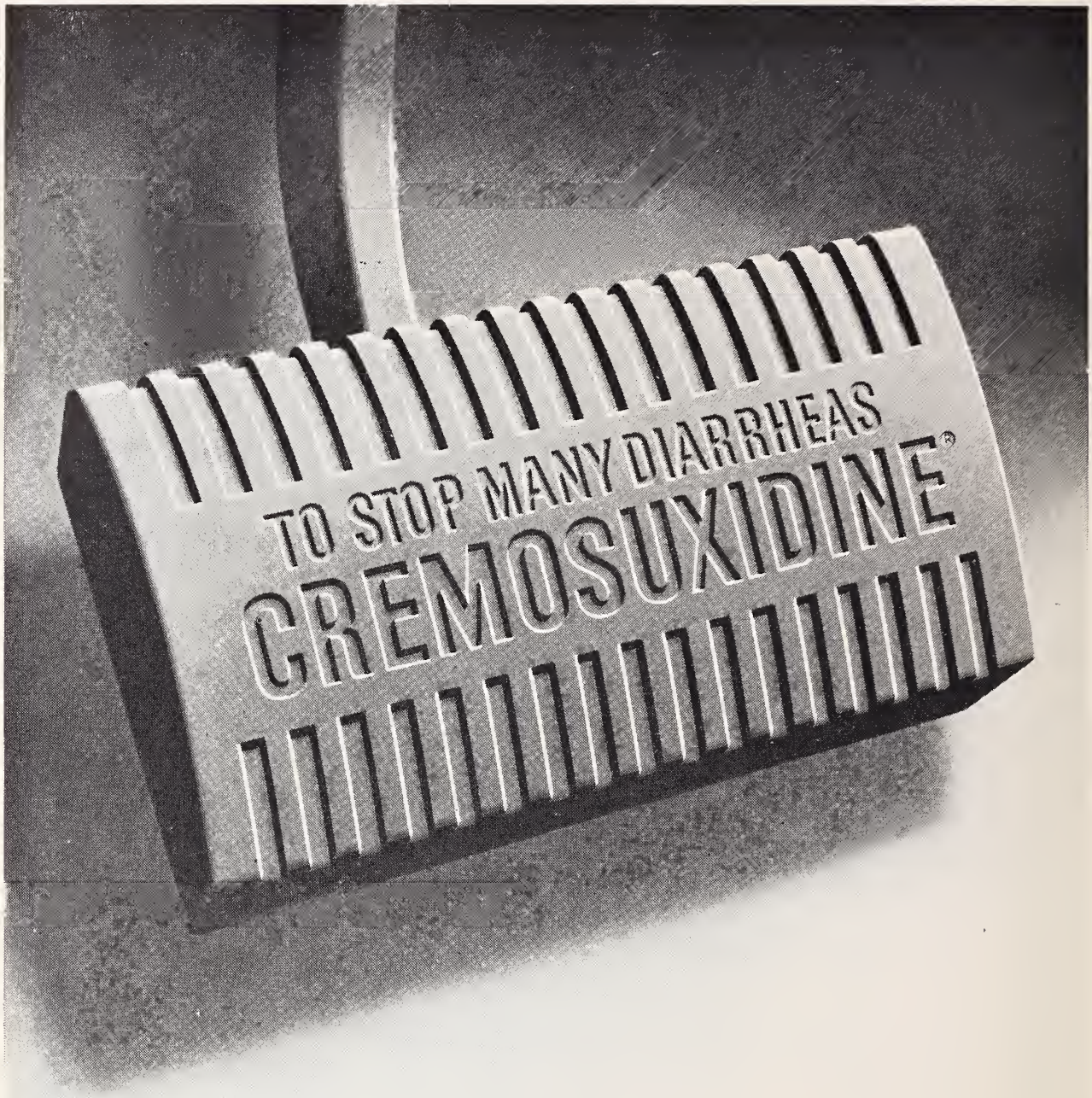
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Topics of Current Medical Interest

Statement By The Arizona Commission Of The Western Interstate Commission For Higher Education Regarding The Volker Report

The Arizona Commissioners of the Western Interstate Commission for Higher Education are proud of the Arizona Student Exchange Program in medicine, dentistry, and veterinary medicine. This program, generously supported by the Arizona legislature, has completely attained its original objectives of providing financial assistance for every qualified applicant for study in these fields. The present program will probably suffice for dentistry and veterinary medicine for a good many years to come.

Although the WICHE program has been of material assistance to individual medical students, it has not solved several important problems of medical education and medical care that face Arizona immediately; and the Arizona Commissioners feel obligated to make these points clear.

(a) The WICHE program has not been effective in materially increasing facilities for medical education in the western states. Although qualified Arizona students are still being accepted by medical schools in neighboring states, they are facing increasing difficulty in gaining admission as the demand for admission increases among residents of those states. In a brief two year span, non-resident admissions to both public and private schools of medicine in other states have decreased by one-half, and this rate of decrease shows every evidence of continuing.

(b) The WICHE program has not been and cannot be effective in attracting talented young Arizonans into medicine. After eight years of the student exchange program, only two states in the entire United States have a smaller percentage of their college age population seek application to medical school. In the meantime, Arizona's number of physicians per 100,000 population continues to decline. There is ample evidence that wherever a medical school has been established the number of students seeking medical careers is substantially increased, and increased numbers of young doctors from other states seek interneships and residencies within hospitals of that state. (Arizona's relative numbers of interns as well as hospital residents are well below the average figures for the Mountain States, for the Western States, and for the United States as a whole.)

Only the presence of a good medical school in Arizona can solve these problems. The WICHE program cannot do it nor can any scholarship program, no matter how generously devised and supported. In the long run, Arizona's generous support of the Student Exchange Program for medical students would be more wisely spent if applied toward the establishment and maintenance of a medical school within this state.

The Arizona Commissioners welcomed the action of the Board of Regents of the Universities

and State College of Arizona in their undertaking a thorough and comprehensive study of the problems of medical education and related matters within this state. They were particularly pleased with the appointment of Doctor Volker and his large group of impartial and exceptionally well qualified investigators and advisors. In the best interests of higher education in Arizona, and in the best interests of medical education and medical care for the citizens of Arizona, the Commissioners urge the immediate adoption of the recommendations of the Volker report. They also unanimously urge the implementation by the Board of Regents and the Arizona Legislature of these recommendations at the earliest possible moment.

REVIEW OF THE PROGRESS OF THE WESTERN INTERSTATE COMPACT PROGRAM FOR EDUCATION OF PHYSICIANS, DENTISTS, AND VETERINARIANS

The planning and financing of higher education, particularly advanced and professional education, is becoming increasingly more difficult and increasingly more expensive. The problems of increasing demand which beset American education in general are particularly acute in the West. No region has invested more heavily in education or placed greater emphasis on equality of educational opportunity. There is, however, little privately financed higher education in the West, and the recent pressures of enrollment and demand for trained persons have placed a considerable strain on state educational budgets.

Experience has shown that interstate cooperation is a sensible and practical approach which encourages mutually profitable assistance between the states without diluting the responsibility of each state for the education of its own citizens. Early in the 1950's, with the above as a background, the Western Interstate Commission of Higher Education was established by the governors and legislatures of the western states to provide facilities for assessing western needs in higher education, to serve as a fact-finding agency and a clearing house for interstate programs, to make basic studies of educational needs and resources in the West, and to negotiate and administer interstate arrangements for regional educational services.

In carrying out these roles, the Western Interstate Commission early set up a Student Exchange Program in the three health fields of medicine, dentistry, and veterinary medicine. Under this program Arizona has been sending students to the surrounding states for an education in these three fields. An eligible Arizona student can attend a school of medicine, dentistry, or veterinary medicine in one of the other participating states at a cost to the student which is approximately the same as he would pay if he were a resident of the state in which the school is located. This has been a great boon to Arizona students. The Arizona Commissioners of the Western Interstate Commission for Higher Education are particularly proud of the fact that Arizona has developed the largest Student Exchange Program of any of the western states.

Arranging for the exchange of students between the states, however, affords only a temporary solution to a problem which gets increasingly severe with the passage of time. In 1957, the annual report of the Western Interstate Commission pointed out that the West as a whole needs substantial expansion of its medical educational facilities within the next ten years if the growing demands of our increasing population are to be met. Specifically the report may be quoted as follows: "Although the student exchange program helps to compensate for the shortage of facilities, it cannot offer any final solution. It provides for the sharing of existing space in professional schools, but it has not created enough *new space*. A sharing of *scarcity* is not an adequate answer to the mounting pressures of population on western education." Furthermore, "the pressures for admission to professional schools are mounting, and states supporting expensive professional schools are moving rapidly to close the doors to out-of-state students. In a few years, competition for admission will be intense." It is clear that states supporting medical schools may soon find their facilities required completely for their own needs. When this happens, there will be no room remaining for the education of students from other states.

In December of 1959, The Western Interstate Commission for Higher Education published an important study entitled "The West's Medical Manpower Needs." This careful study revealed, among other things, that the West does not have a sufficient number of places in its medical schools to educate qualified applicants from this region. More than half of the students from

western states without medical schools leave the region for their medical education. Since the majority of medical students tend to remain in the general area where their education was received, many of these western students do not return to their home states. The WICHE report showed clearly that the equivalent of at least five new medical schools must be built in the western region within the next few years if anticipated demands are to be met, and if student applicants are not to be squeezed out in the competition for admission. In a brief analysis of the problem faced by the state of Arizona, the report noted that our population will increase approximately 134 per cent in the next 20 years and that by 1965 we can expect our students to find it difficult to gain admission to medical schools. This problem is emphasized by the nation-wide trend to impose residence restrictions on admission. The trend is shown clearly by the fact that in a brief two year span, out-of-state enrollments in publicly supported medical schools have decreased from 9% of the total enrollment to only 4% of the total. In private medical schools during the same period, out-of-state enrollments have decreased alarmingly from 53% of the total to 27%. In the early 1960's, the number of applicants for admission to medical schools is expected to rise sharply and the limited number of opportunities in the West will certainly put western students at an increasing disadvantage in the competition for available spaces. In the meantime, the physician to population ratio in Arizona is declining alarmingly and corrective measures are urgent.

The Western Interstate Commission has been vitally concerned with this problem and has been seeking through special committees to bring these facts before the different states and to help the several states in their planning to meet the problem. It is of further interest, therefore, that the Commission took special pains to commend the state of Arizona when the Board of Regents secured a grant from the Commonwealth Fund more than a year ago to undertake the careful and impartial study which has resulted in the Volker Report. The Arizona Commissioners wish to make clear their unanimous support of the Volker Report and urge that the Board of Regents make every effort to implement all the recommendations of this report at the earliest opportunity.

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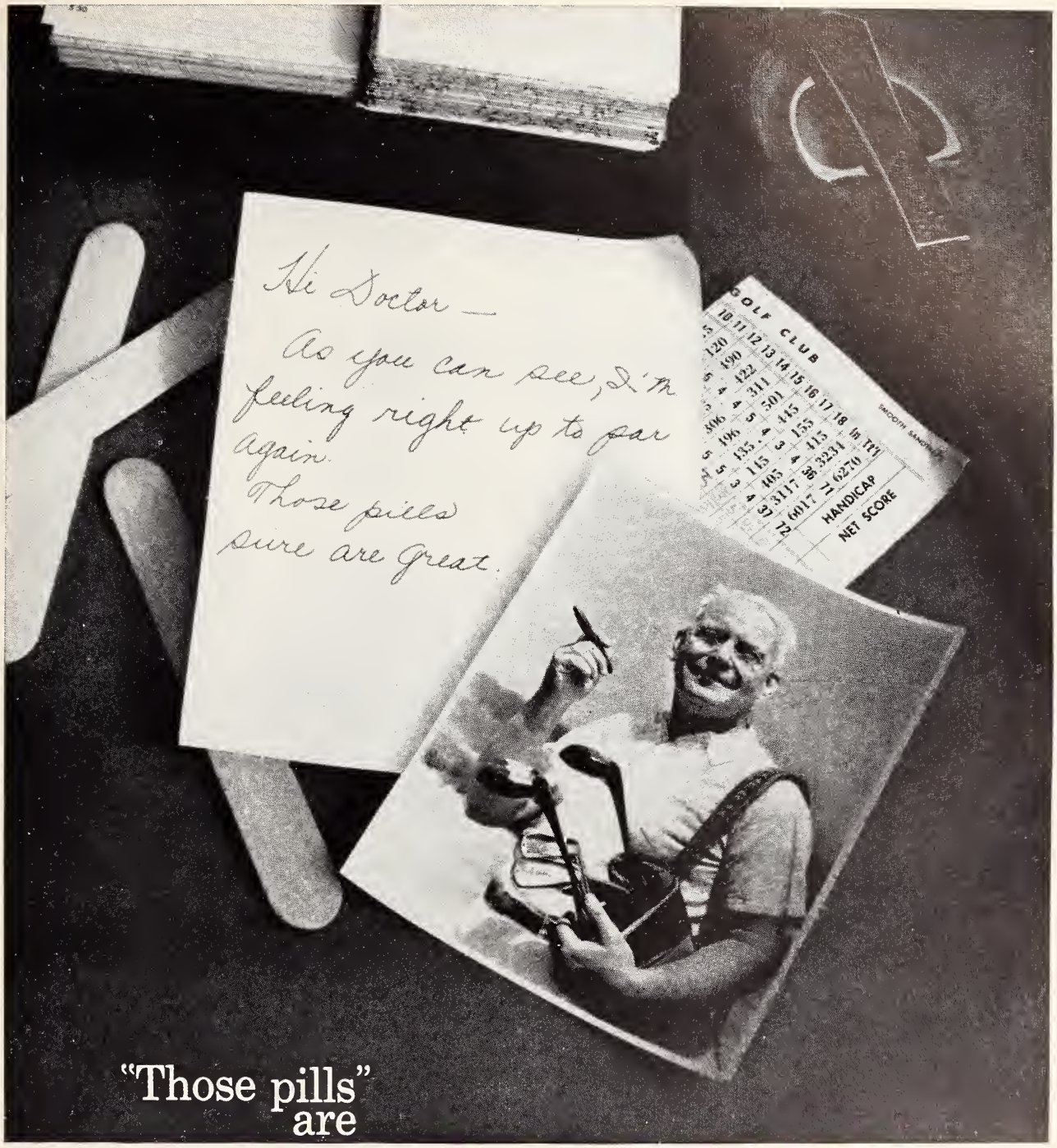
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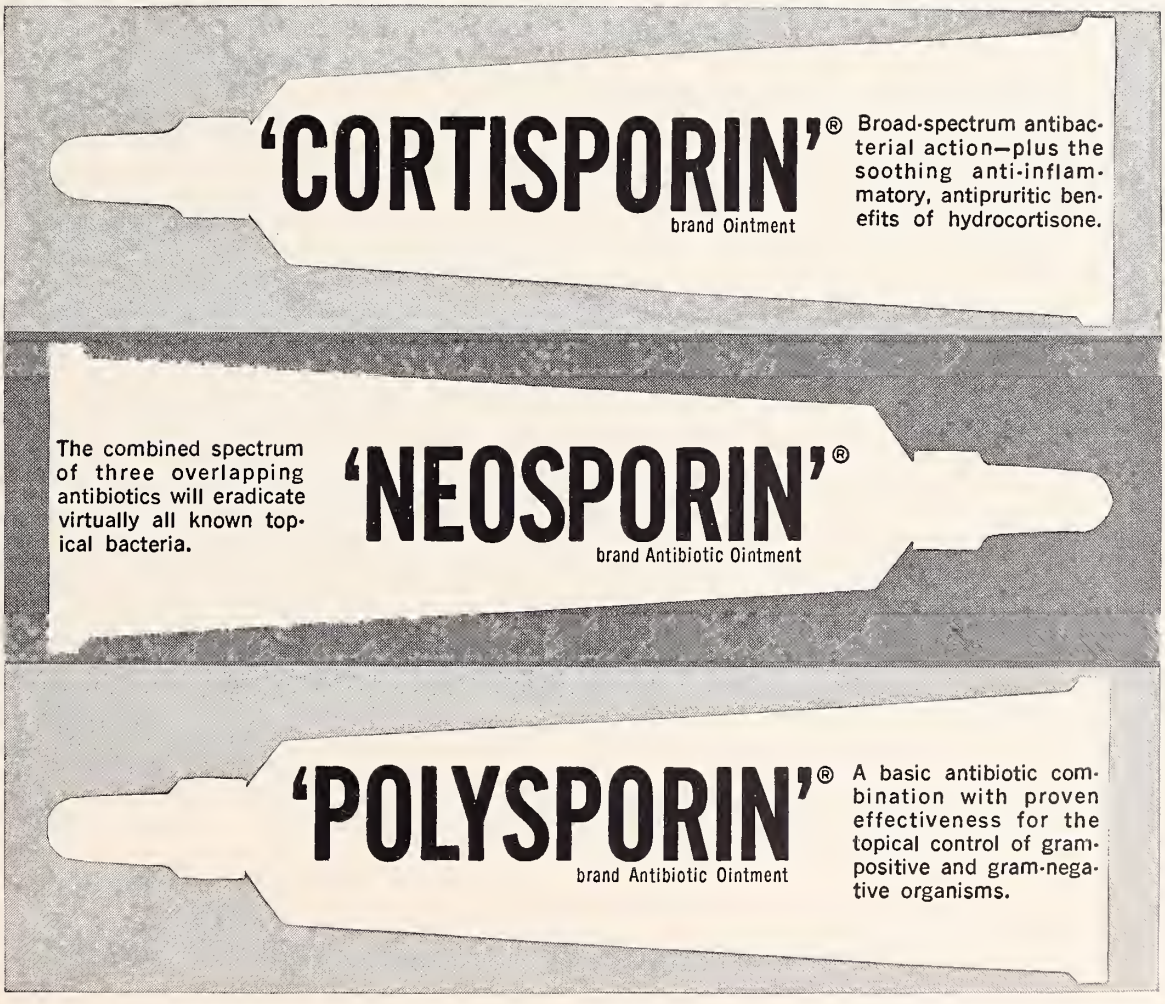
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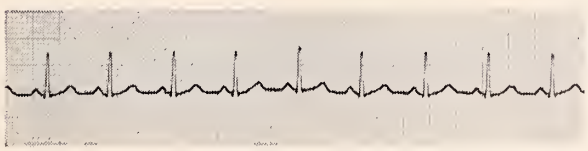
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INDEX TO ADVERTISERS

Abbott Laboratories 55A, 56A
Ames Co., Inc. Inside Back Cover

Breon Laboratories, Inc. 38A
Burroughs Wellcome Co., Inc. 77A
Butler's Rest Home 64A

Camelback Hospital 42A
Camelback Professional Building 68A
Case, G. M. Laboratories, Inc. 2A
Classified Advertising 74A

Doctor's Directory 64A

Franklin Hospital 64A

Hillcrest Medical Center 64A
Hobby Horse Ranch School 74A
H.B.A. Life Insurance Co. 45A

Las Encinas Sanatarium 2A
Lederle Laboratories 40A, 41A, 50A, 75A
Lilly, Eli & Co. Cover, 32A
Loftins Business Forms 68A
Loma Linda Food Co. 57A
Lorillard, P. & Co. 52A

Mead Johnson & Co. Back Cover
Merck, Sharp & Dohme 70A

National Casualty Co. 74A
Nurses Directory 64A

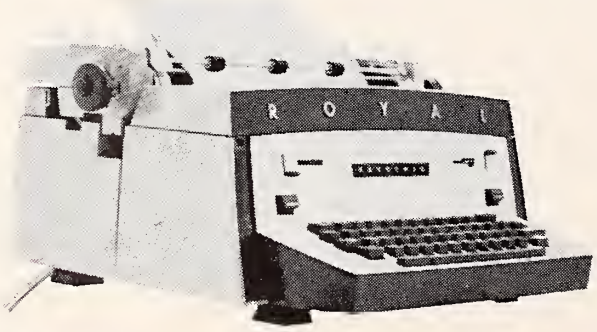
Parke, Davis & Co. Inside Front Cover, 1A
P.B.S.W. Co. 82A
Pfizer Laboratories, Inc. 9A, 10A, 11A
Pharmacy Directory 73A
Phillips - Roxanne, Inc. 69A
Physicians Casualty Association 2A

Robins, A. H. & Co. 47A, 54A
Roche Laboratories 31A
Ryans Evans Drugs 68A

Sanborn & Co. 79A
Sardeau & Co. 30A
Saunders, W. B. & Co. 3A
Schering Corporation 29A, 39A
Searle, G. D. & Co. 46A
Smith, Kline & French Labs, Inc. 65A
Squibb, E. R. & Sons Co.....12A, 36A, 37A
Standard Brands, Inc. 7A

Upjohn, The Co. 51A

Wallace Laboratories 28A, 49A
Wayland Drugs 64A
Wesson Oil & Snowdrift Sales Co. 34A, 35A
Winthrop Laboratories ...5A, 33A, 43A, 53A, 63A



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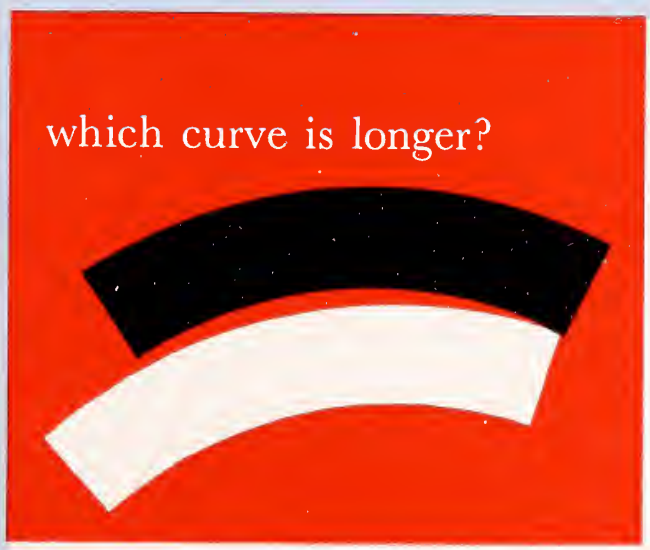
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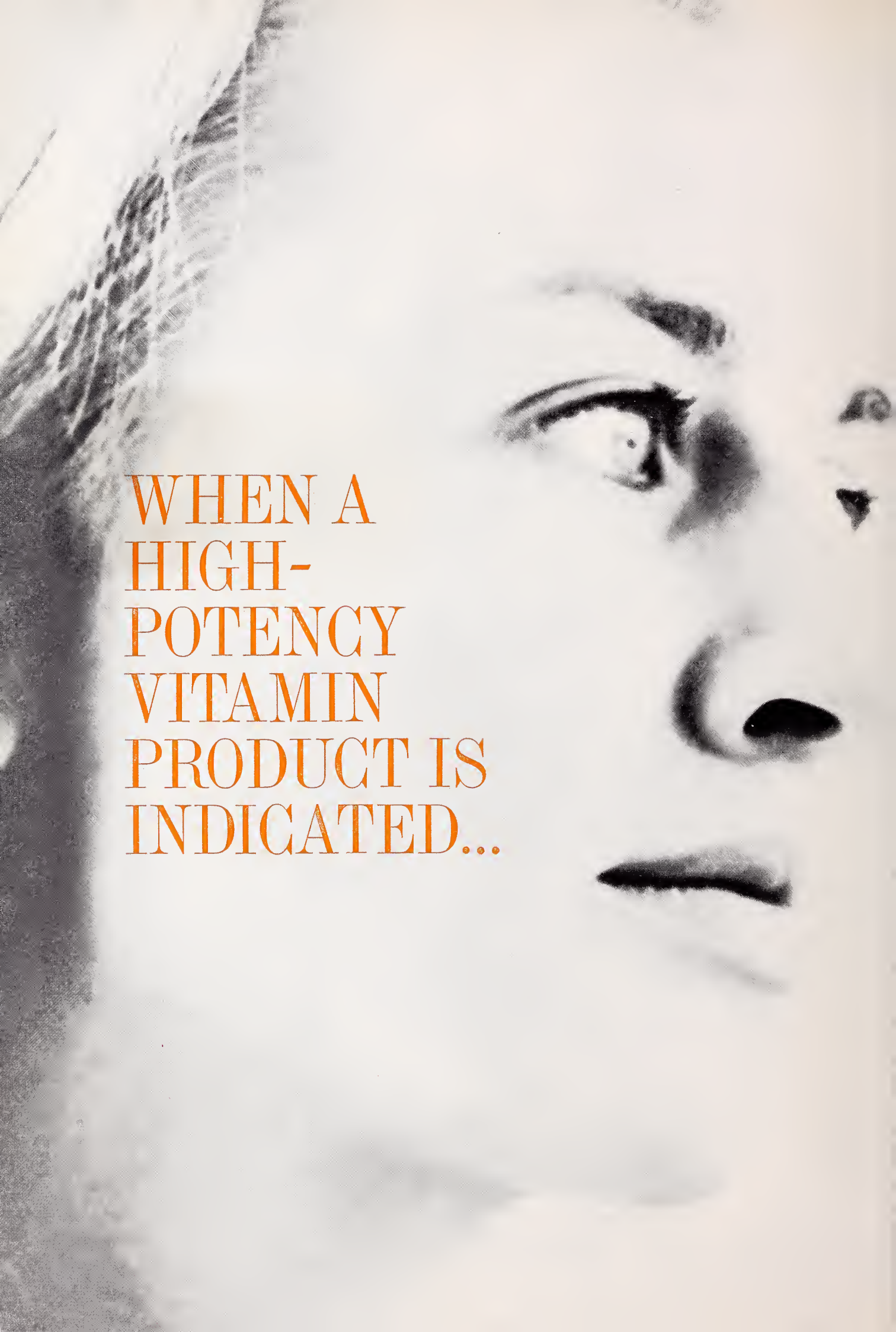
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November, 1961 Vol. 18, No. 11

Table of Contents

ORIGINAL ARTICLES

THE USE OF LIMITED SURGERY AND MAINTENANCE CHEMOTHERAPY FOR THE MANAGEMENT OF CERTAIN 'INOPERABLE' TUMORS 287
Jeanne C. Bateman, M.D.

THE NASOPHARYNX AND LARYNX: PATHOLOGIC FEATURES 294
Malcolm B. Dockerty, M.D.

HYSTERECTOMY: ABDOMINAL OR VAGINAL 300
J. G. Moore, M.D.

SURGICAL THERAPY RECORDED IN THE EARLY EGYPTIAN PERIOD 305
Howell Randolph, M.D.

A LAW ENFORCEMENT OFFICER LOOKS AT INTOXICATION AS AN ACCIDENT CAUSE 309
Lt. T. H. Milldebrant

HEALTH MANPOWER MANAGEMENT 315
M. M. Van Sandt, M.D.

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

ANNUAL MEETING – HERMOSILLO – December 6, 7, 8, 1961 22A

PRESIDENT'S PAGE

THE VOICE 29A
Leslie B. Smith, M.D.

EDITORIALS

PHOENIX HOSPITALS PLAN TOGETHER – R. Lee Foster, M.D. 38A
INCORPORATION – SELF EMPLOYED – Paul B. Jarrett, M.D. 39A
LETTERS TO THE EDITOR: Robert F. Lorenzen, M.D. 40A
The National Foundation 41A
Arizona Zoological Society 42A
THE HORNETS' NEST – Andre J. Bruwer, M.D. 42A

TOPICS OF CURRENT MEDICAL INTEREST

ARIZONA STATE SOCIETY OF AMERICAN MEDICAL TECHNOLOGISTS, OPENING REMARKS – Hugh H. Smith, M.D. 49A
ARIZONA POISONING CONTROL INFORMATION CENTER, IMIPRAMINE POISONING 51A
PALO VERDE HOSPITAL 53A
LIVING WITH GLAUCOMA – A. K. Hansen, M.D. 55A
BOARD OF MEDICAL EXAMINERS, CERTIFICATES ISSUED JULY, 1961 57A
LOCATION OPPORTUNITIES 59A
MEDICARE 63A

FUTURE MEDICAL MEETINGS AND POSTGRADUATE EDUCATION

POSTGRADUATE SEMINAR, SURGERY – GOOD SAMARITAN HOSPITAL 67A
POSTGRADUATE SEMINAR, INTERNAL MEDICINE – GOOD SAMARITAN HOSPITAL 69A
REGIONAL MEETINGS, FALL, WINTER, SPRING, 1961-62 71A
INSTITUTE FOR CARDIOPULMONARY DISEASES, SCRIPPS CLINIC 71A
AMERICAN DIABETES ASSOCIATION CLINICAL CONFERENCE 71A
CONFERENCE ON CONGENITAL DEFECTS 71A
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE 71A

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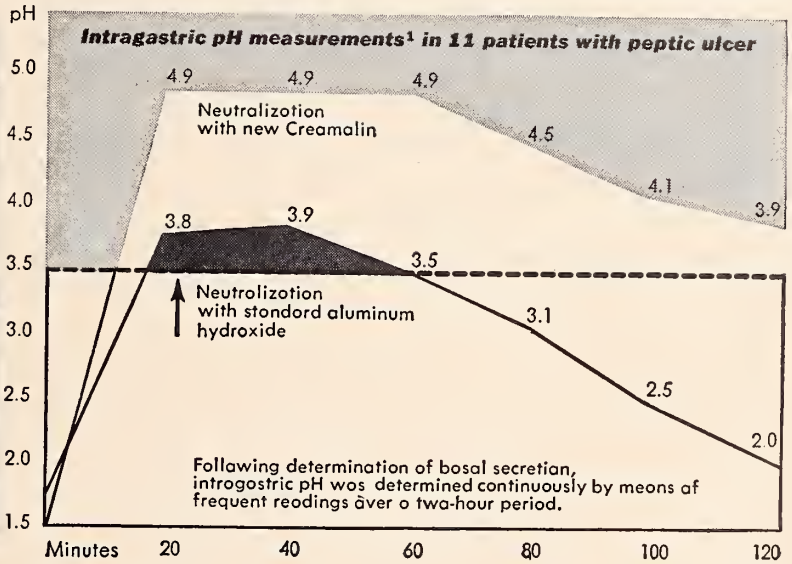
OFFICERS AND COMMITTEES 6A
SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTE AMERICA Y MEXICO 8A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 8A
WOMAN'S AUXILIARY 8A
INDEX TO ADVERTISERS 74A

Published monthly by the Arizona Medical Association, Inc. Business office at 4533 North Scottsdale Road, Suite 211, Scottsdale, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.

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arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported In: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

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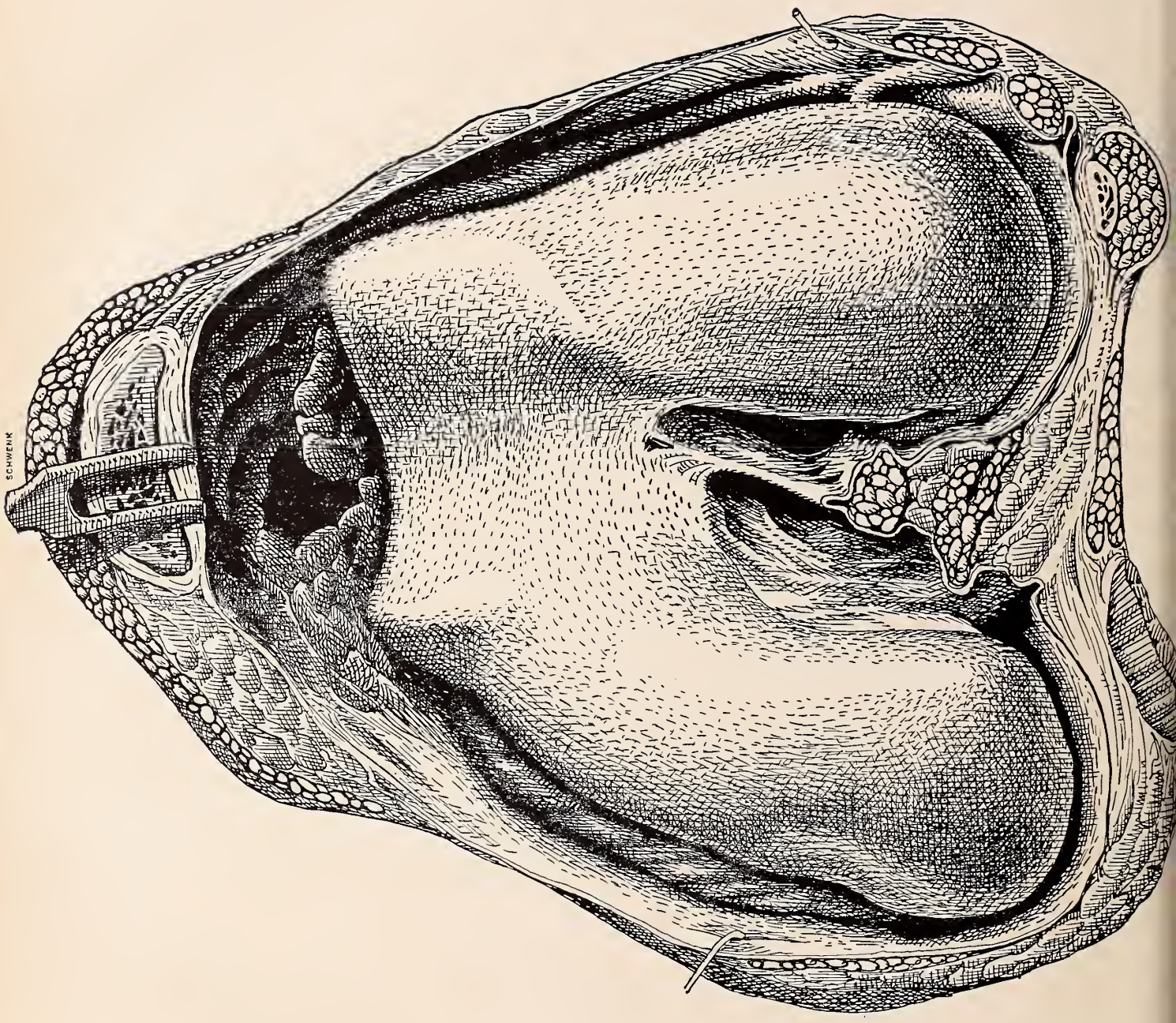
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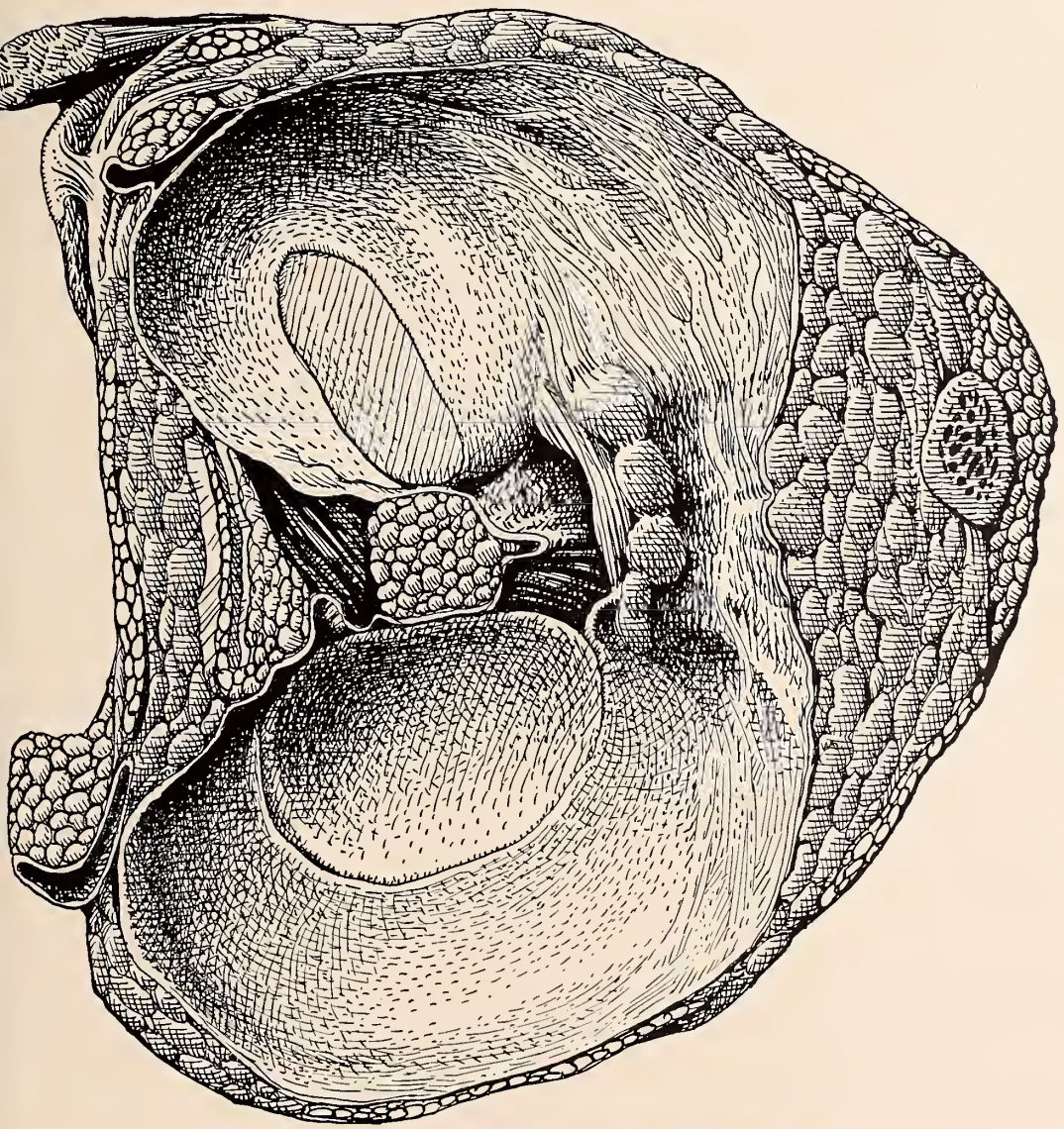
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*References supplied on request.

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Arizona Medicine

November, 1961 Vol. 18, No. 11

The Use of Limited Surgery and Maintenance Chemotherapy for the Management of Certain "Inoperable" Tumors

Jeanne C. Bateman, M.D.

This approach to a difficult and at times insurmountable problem necessitates a difference in philosophy of handling the patient. However, these results necessitate a review of Dr. Bateman's management of these patients, for her results apparently offer useful life for a prolonged period in some cases.

BOTH THE physician and the laymen know too well the expression of futility which accompanies the remark "the patient was opened and closed" or "the doctor removed all the tumor he could." Even local X-ray treatment cannot be expected to cure the patient with an irresectable neoplasm. In the light of our present knowledge regarding cancer cell dissemination it is to be expected that surgical manipulation accelerates a process which is already in operation. Even tho' palliation of the local lesion were to be achieved in some manner distant metastases would prove lethal. However, although we do not as yet have a cancer cure, certain chemotherapeutic agents have recently become available which have altered the grim outlook for many so-called hopeless cancer cases.

Firstly, let us review certain facts which are of importance in chemotherapy:

1. A tumor must be responsive to a chemotherapeutic agent in human tolerated doses.

2. The chemotherapeutic agent must reach the cancer cells in a concentration sufficient to destroy the latter. A tumor nodule may be less

Address presented at the Ninth Annual Cancer Seminar, Arizona Division, American Cancer Society, January 12, 1961, Tucson, Arizona.
Washington Hospital Center, Washington, D. C.

vascular than surrounding normal tissue.

3. Circulating cancer cells such as those which are shed by all tumors which invade capillaries and venules and which tend to be increased at the time of tumor manipulation are probably more sensitive to any chemotherapeutic agent than are those cancer cells which have become securely implanted.

4. Perhaps over 99% of cancer cells fail to survive. However, it has been demonstrated that the number of "takes" is proportional to the number of circulating cancer cells.

5. It has been demonstrated experimentally that tumor cells in the blood stream become fixed extravascularly within 4-6 hours.

As has been stated we do not have any chemotherapeutic agents yet available which can be called curative. A practical anticancer drug then must be one which can be tolerated over a long period of time by the patient. Cancer patients will not continue to return for therapy which makes them extremely sick any more than the pernicious anemia patients could force themselves to eat several pounds of liver per day to keep alive in the pre-liver extract days. Most of our presently available chemotherapeutic drugs are clinically toxic; a number produce severe nausea and vomiting; others cause alopecia. These symptoms may be reversible with cessation of treatment. However, cessation of treatment usually is accompanied by acceleration of tumor growth. Although many oncolytic drugs are tissue vesicants and produce serositis and fibrosis unless injected into blood vessels, a number including cytoxan, nitromin and triethylene thiophosphoramide (better known as Thio TEPA) can be injected directly into tumors and other tissues. Such adaptability permits approximately double the dose which can be administered by vein. A practical chemotherapeutic agent must have a fairly long action so that prolonged intervals between administration will be compatible with a patient's normal activities. It must, in addition, also have a predictable and controllable hematologic effect.

Until a few years ago the prognosis of the patient with ovarian carcinoma which had extended beyond the confines of the ovaries was so poor that even with X-ray therapy the one-year survival was only 19%.

In March 1954, B. K., a 60 year old woman, presented herself to the clinic with a mass in the right supraclavicular fossa. Needle aspiration biopsy of the mass proved it to be metastatic papillary adenocarcinoma similar to an ovarian tumor previously resected. We were currently interested in the local injection of chemotherapeutic drugs and decided to see what response could be achieved in this manner; 40 mg. of Thio TEPA were injected into the mass on March 19th. In three weeks the mass had almost disappeared.

This observation stimulated us into starting a series of patients with ovarian carcinomatosis on a chemotherapy program. As time went on we learned that therapy had to be continued in order to maintain control. However, we also learned that such therapy could be managed on an outpatient basis and was therefore compatible with a near normal existence for the patient. Furthermore, it gradually became apparent that injection of drug into the main mass of disease gave best results not only in regressing the injected tumor but it also resulted in regression of other metastatic sites in the same patient.

Review of 96 patients with irresectable or only partially resectable ovarian cancer who were started on maintenance chemotherapy at the time of surgery or shortly thereafter, revealed that survival time was appreciably better than similar patients treated by surgery and/or X-radiation only. The one year survival in our series is 59% as compared to that of 19.1% reported in the Connecticut State Statistics. Both groups have been evaluated by the same cumulative life table analysis. We have been quite intrigued by the similarity of the 5 year figure to the 3 year figure and would like to think we could use the word "cure" here. At this time we don't however, and our patients, like ourselves, are permitted to use the word "control" only! Two examples of good control follow:

M. P., a 69 year old lady, had resection of papillary adenocarcinoma of the ovary in December 1952. Four months later she was reoperated for recurrence, generalized seeding of the pelvic peritoneum was noted with angulation and infiltration of both ureters and the bladder

base. 12 radon seeds were implanted. In December 1953 a colostomy was done to relieve intestinal obstruction caused by pressure of an extrinsic mass. The patient had given up a job in New York and had been sent to Washington to spend her few remaining days with her daughter. Maintenance chemotherapy with Thio TEPA given by the intravenous route resulted in clinical improvement. *Only* when the drug was injected by the vaginal route did the pelvic mass shrink. The colostomy was closed in May 1954. The patient had gained 25 pounds by October 1954 and was able to make a bus trip to Iowa. Chemotherapy was administered chiefly by the transvaginal route at increasingly long intervals; i.e., up to four weeks. One year ago therapy was changed to the oral route. There is *no* evidence of disease *seven* years after institution of chemotherapy.

F. D., a 58 year old lady, developed a "bad cold" in March 1957 complicated by chest pain. In May a chest X-ray revealed pleural effusion which recurred in spite of repeated chest taps. She was hospitalized and a laparotomy in August 1957 revealed carcinoma of both ovaries with metastases throughout the abdomen and in the liver. The prognosis appeared so poor that the family at first was reluctant to accept chemotherapy and thereby have the patient become aware of her diagnosis. This patient required only two more chest taps with injection of 50 and 35 milligrams of Thio TEPA respectively. There has never been any recurrence of pleural effusion. Chemotherapy was maintained by the intra-abdominal route, the dose being guided by the white blood cell count. The patient was discharged from the hospital and treatment has continued on an outpatient basis. She shows no evidence of disease 3½ years after institution of chemotherapy and is leading a very active life.

The cell type seems to be unrelated to the response to chemotherapy by ovarian cancer. Approximately one out of three of these patients will respond incredibly well, regardless of pathology type. One-third will demonstrate a limited or no response for reasons which are not evident. It is dangerous to assume that this disease is controlled too soon. We have learned that to be safe therapy should be given once weekly for one year after which the interval may gradually be prolonged *provided* that the patient is doing well.

Carcinoma of the pancreas has an even poorer prognosis than the ovarian carcinoma. Both of these tumors are difficult to diagnose until they are incurable by surgery. The short survival times following diagnosis are frequently miserable and pain-ridden. Our observations in a limited series of 15 patients with carcinomatosis secondary to pancreatic cancer has left us with the distinct impression that chemotherapy should be instituted at the time of surgery and given to tolerance in all such cases.

In our 15 cases partial resection of tumor was achieved in one, recircuiting procedures in 6 cases, exploratory and biopsy in 6 cases. One individual who was treated following demonstration of cancer cells in pleural fluid and another after biopsy of a submental node were diagnosed at autopsy. One patient only received chemotherapy at the time of surgery. In the others intervals ranging from 5 days to 4 months elapsed before the institution of treatment. In spite of this handicap, survival time was improved over that which can be anticipated according to the Connecticut State Statistics.

CARCINOMA OF PANCREAS WITH REMOTE METASTASES. PER CENT SURVIVAL AS CALCULATED BY LIFE TABLE METHOD

	3 months	6 months	1 year
Author*	73.0	44.0	11.0
Conn. State	16.1	6.2	1.1

*15 cases treated with triethylene thiophosphoramide given by intratumor and oral routes.

Following an initial dose of Thio TEPA of 45-60 milligrams (the lower dose being used for poor risk cases) therapy was continued at one to two week intervals and the dose of drug determined by a pretreatment white blood count. A few patients were treated at one week intervals by direct injection into tumor sites and if this was not possible the same dose of drug was given by mouth.

Cytoxan or 5-Fluorouracil could be used with probably equal effectiveness but the tendency of both of these agents to cause alopecia and the high incidence of nausea associated with 5-Fluorouracil has made us reluctant to employ

them in patients in whom therapy had to be maintained indefinitely, and who often were already quite miserable.

Five patients in our group returned to whole or part time work; one enjoyed an extended vacation. An example of chemotherapeutic control follows:

B. F., a 65 year old woman, had suffered from increasing abdominal discomfort for one year during which time she was treated with tranquilizers and hormones. On March 24, 1960 an exploratory laparotomy revealed carcinoma of the pancreas involving the transverse colon, the jejunum, the omentum, the origin of the superior mesenteric vessels and the abdominal wall. A biopsy was taken and 60 mg. of Thio TEPA were injected into the tumor. Subsequently the patient received weekly injections of drug into the upper abdomen until May 6th at which time oral therapy was instituted. To date the patient has had a total dose of 413 mg. of drug. Supplementary therapy with small doses of cortisone had to be changed to Aristocort because of an adverse psychological effect from the latter. The patient enjoys normal activity and has gained 13 pounds and there is no demonstrable disease at this time almost *eight* months after institution of chemotherapy at surgery.

The prognosis of adeocarcinoma of the kidney is unpredictable since small tumors may metastasize widely and large tumors may be present for many years without evidence of metatases. It has been emphasized that 15 to 50% of the patients who do survive 5 years develop recurrences after that period. Furthermore, in spite of the occasional spectacular long term survival it is not possible to ignore the fact that including all cases of renal neoplasms, early, late and inoperable, the overall 5 year survival is only 20%. The prognosis for epidermoid carcinoma of the renal pelvis is invariably very poor and in two reported series there were no 5 year survivals.

Oberkircher, O. J. Staubitz, W. J. Blick, M. S. *Squamous Cell Carcinoma of the Renal Pelvis.* J. Urol. 66: 551-560. 1951.
Gahagan, W. Q., Reed, W. K. *Squamous Cell Carcinoma of the Renal Pelvis: 3 Case Reports and Review of the Literature.* J. Urol. 62: 139-151. 1949.

Because of the focus centered on the occasional long survival it is difficult to arouse interest in the 80% five year survival failures and chemotherapy has usually been reserved for extremely advanced metastatic renal carcinoma. Because of the mass of disease present and because post X-ray fibrosis often precludes adequate penetration of drug into a tumor site results of chemotherapy have been somewhat discouraging. In our own patients we have noted varying degrees of pain relief, improvement in well-being, regression of pulmonary nodules as well as regression in signs and symptoms of central nervous system metatases. For these reasons it has seemed logical to start maintenance chemotherapy at the time of surgery at least in patients whose prognosis is guarded because of extent of disease, blood vessel invasion or spillage of tumor during operation. Our series is small but rather interesting and I'd like to illustrate my remarks by describing three cases:

R. C., a 57 year old art museum guard, experienced intermittent hematuria for two weeks prior to hospital admission. On March 25, 1957 a left nephrectomy was done. During surgery part of the capsule was torn and left behind. From April 4th to August 5th, 1957 a total dose of 290 mg. of Thio TEPA was injected into the surgical site at one to three week intervals. At the end of this time the patient felt so well that he voluntarily stopped treatment. In March 1959 (19 months later) the patient developed left flank muscle spasm and a "lump" in this region. Surgical resection of the tumor was achieved in July but was followed by severe pain which radiated down the left leg. There was marked tenderness in the sacral region. Chemotherapy was re-instituted with local injections of Thio TEPA into a left flank mass. There was some regression of the mass. However, by October 1959 X-rays demonstrated osteolytic destruction involving the first, second and third lumbar vertebrae. X-ray therapy produced minimal transient relief of pain only. The patient expired miserably on November 23, 1959, 32 months after his first operation. This case illustrates the difficulty in the management of advanced metastatic renal carcinoma.

A case with an initial much poorer prognosis

due to the histological cell type is now presented.

R. S., a 53 year old machinist, gave a history of painless hematuria in 1946 and resection of some type of bladder tumor. On June 20, 1956 there was massive hematuria. A right nepherectomy was achieved on June 26. During surgery the patient hemorrhaged and went into shock. Pathological examination revealed a papillary epidermoid carcinoma with invasion of the wall of the renal pelvis; the stump of the ureter was filled with tumor. Chemotherapy with Thio TEPA was instituted on June 28th and maintained at intervals gradually increasing from one to four weeks. The patient had received a total dose of 1564 mg. by December 10, 1960. Small doses of cortisone, i.e., 12.5 mg., once or twice daily and adrenocorticotropic hormone 40 units by intramuscular injection on days of chemotherapy have been used as supplemental therapy in order to give maximum protection to bone marrow. The white blood cell count has been maintained between 3-and 5,000; the hemoglobin between 11 and 15 gms. % on this schedule. The patient has lost no time from work since his initial surgery and shows no sign of recurrence 4½ years following institution of chemotherapy.

Another case of renal carcinoma complicated by pregnancy is presented:

L. B., a 24 year old woman, noted an upper abdominal mass in July 1957 during her first pregnancy. On September 26th resection of a football sized tumor was achieved and a pathology diagnosis of clear cell carcinoma of the kidney was made. Because there had been some spillage of tumor cells, chemotherapy by local injection of Thio TEPA was instituted on September 28, 1957 and maintained at 1 to 2 week intervals until February 11, 1958. At that time the patient was delivered of a healthy baby boy. Chemotherapy was resumed and because the patient was doing well it was changed on December 18, 1958 to the oral route. (5 mg. to four times weekly depending on the white blood cell count.) The patient has received a total of 1430 milligrams of drug and at this time, 39 months postoperatively, there is no evidence of recurrence. The baby is healthy.

These observations are limited, but suggest:

1. Early use of maintenance chemotherapy in prognostically poor renal cancer may help to improve the 80% five year failure rate.

2. Maintenance chemotherapy is practical and compatible, when properly managed, with normal activity.

All doctors see at some time the patient with a far-advanced, "inoperable" breast tumor who has delayed seeking help because of shyness, fear or because she has observed others die quickly following cancer surgery. X-ray therapy is used in this type of patient, not infrequently with impressive local results only to have the patient die soon thereafter with distinct metastases. In many cases limited surgery with simultaneous institution of maintenance chemotherapy can be used. The surgery removes a nursing problem; chemotherapy is useful in destroying local residual diseases as well as in controlling distant metastatic implants.

Following are the observations on 11 such patients, only two of whom had had previous therapy (X-ray in one and Hoxsey in another). There was ulceration in 7, fixation to skin with impending ulceration in 4, bleeding in 2, a large axillary mass in 9, edema of the arm in 2, lung metastases in 3, bone metastases in 2 and hepatic metastases in one. A limited radical procedure was done in one; a simple mastectomy in 9 and local excision in one. Chemotherapy with Thio TEPA was begun one to ten days prior to surgery in four; at the time of surgery in seven and subsequently administered at one to four week intervals to hematopoietic tolerance. There was good healing in all cases. Two patients are alive and at normal activity at 18 and 51 months; 9 patients expired in 0.4 to 12.0 months. Causes of death were pulmonary embolus 1, congestive heart failure 2, (brought on by failure to take prescribed digitalis in one), and cancer 6. One case is given in detail:

L. F., a 59 year old woman, noticed a lump in the right breast in the Fall of 1954. By September 1955 it had ulcerated and the patient was forced to quit her job. When first seen in February 1956 there was a proliferative, ulcerated, infected 20 cm. mass covered with foul smelling exudate and located above the right

nipple. There was some puckering of the tissue below the nipple, indicative of lymphatic invasion.

Culture revealed a pyocaneous infection sensitive only to dihydrostreptomycin which was administered. On February 13th 50-mg. of Thio TEPA were injected into the right breast. On February 14th local excision of the mass was achieved and closure of the defect was done on March 3rd. The patient had weekly injections of drug into the region of the scar for approximately one year following which time the interval was gradually increased to four weeks. The patient returned to work shortly after her operation and has no evidence of cancer today, 4½ years after institution of therapy.

These remarks would be incomplete did I not mention the use of chemotherapy for prophylactic wound and blood sterilization at the time of surgery for early cancer. The growing interest in the role of shed cancer cells is apparent by the number of articles which have recently appeared on the subject. Cancer cells have been isolated from the peripheral blood of patients with neoplastic disease, from the veins draining the primary tumor, and sometimes from the blood of patients with small curable lesions as well as in wound washings. Reduction of such cells by the use of alkylating agents has been achieved not only in animals with experimental tumors but also in human cancer patients. More important, evidence is beginning to appear indicating that the recurrence rate of cancer can be appreciably affected by prophylactic chemotherapy administered at the time of surgery for resectable tumors. In a recent double blind study on breast cancer the recurrence rate at 26 months in premenopausal women given prophylactic Thio TEPA at the time of mastectomy was 5% as compared to 54% in the controls. In the postmenopausal women the difference although not as striking was still impressive namely 11% in the treated as compared to 35% in the controls.

Medical World News 1, 15:13. Nov. 4, 1960.

CHEMOTHERAPY FOR WOUND AND BLOOD STERILIZATION AT TIME OF SURGERY*

Drug	Route	Average Case	Poor Risk**
Thio TEPA	Local	60 mg.	45 mg.
	IV	0.2 mg./kg. at surgery and on 1st & 2nd postop. day	
CYTOXAN	Local	800 mg.	600 mg.
	IV	8 mg/kg x 3 days	4 mg/kg x 3 days
HN_2	IV	0.2 mg/kg then 0.1 mg/kg on 1st and 2nd postop. day	

*Single dose or short course not adequate in presence of residual disease.

**Patients with slowed renal excretion due to physiological age, marked debility, chronic cardiovascular renal disease and shock.

A number of drugs can be used as wound and blood sterilizing agents and dose schedules are listed for three of them.

We prefer a single dose of drug to be used in the wound at the completion of an operation because of the simplicity and possible greater effectiveness of this method. Apparently about one-half the dose remains locally and therefore can act as a wound sterilizer while one-half passes into the circulation where it can come into contact with circulating cells. We tend to prefer Thio TEPA for this procedure because not only is it nonvesicant like cytoxan but also it is so soluble that 6-cc of water only is needed to dilute 60 mg. of drug. Let me re-emphasize the fact that alkylating agents as those listed must be used in smaller doses in patients with slowed renal excretion due to physiological age, marked debility, chronic cardiovascular renal disease and shock.

Observations on 22 consecutive cases of breast cancer treated with prophylactic chemotherapy at the time of mastectomy are given in the next table.

Although it is too early to fully evaluate such a study, the results look promising indeed. We therefore can look to chemotherapy not only to improve the statistics for "early" cancer but also to extend the criteria for operability in advanced cancer.

PROPHYLACTIC CHEMOTHERAPY FOR RESECTABLE MAMMARY CARCINOMA

CASES 22	**Age Range 29-82 years (average age 51 years)**
SURGERY:	Radical 18, Simple 3, Local 1* (1 node 3, more than one node 4)
CHEMOTHERAPY (Thio TEPA)	40-115 mg. given as follows: 1 dose (15), 2 doses (3), 3 doses (3), 4 doses (1) Locally 20 patients; I.V. 2 patients.
FOLLOW UP	**No evidence distant metastases** in 21 cases (90.8%) In 6 to 48 months (average 27). **1 local recurrence** (infiltrating duct, multiple foci) Rx with X-ray at 21 months. No evidence disease at 39 months. **1 patient expired** in 4.5 months with massive hepatic metatases.

*82 WF 0.5 cm mass attached to skin, nodes positive, local excision on 1-3-57. Thio TEPA locally 50 mg. on 1-3-57; 40 mg. on 1-8-57, 25 mg. on 1-18-57. No evidence tumor November 1960.

WHITE ANGEL INN

White Angel Convalescent Inn, 1845 East Thomas Road, Phoenix, is now receiving patients, only on referral of a doctor of medicine. The 56 bed, $500,000 facility, a project of Phoenix business men headed by Julius Altschul, offers convalescent care to patients not requiring regular hospitalization.

Administrator, Mrs. Helen Haese, with 14 years background, comes from Crippled Children's Hospital in Dallas; Mrs. Elizabeth Macek, R.N., is director of nursing; and John A. Julian, R.P.T. will direct therapy service.

Incorporated into the facility are indoor-outdoor dining, patio and other lounge areas, while full baths, remote control TV, radio, intercom system and telephone are incorporated into each of the delightfully furnished rooms.

Malignant and Semimalignant Tumor of the Nasopharynx and Larynx: Pathologic Features

Malcolm B. Dockerty, M.D.

Using the material seen at the Mayo Clinic, the malignant neoplasms of the nasopharynx and larynx are discussed with special emphasis on incidence, life history and prognosis of these neoplasms.

LAUNCHING into this discussion of nasopharyngeal and laryngeal cancers I should like first to re-emphasize the importance of securing a positive biopsy specimen before proceeding with treatment. Some of the lesions which grossly appear to be malignant are, in fact, inflammatory. And although many different histologic types of cancer respond differently to irradiation, yet, following such treatment, all tissues removed may consist of the same undiagnosable necrotic cellular debris.

At times the positive biopsy evidence may be secured in quite a roundabout way. I recently reviewed necropsy material from a patient who succumbed nine years after one of our neurosurgeons had made at craniotomy a gross diagnosis of primary pontine glioma. Nobody likes to "biopsy" the pons! Roentgen therapy accordingly was given to shrink the brain stem and maintain patency of the fourth ventricle and aqueduct. After nine long years this lifeline closed. At necropsy the brain tumor proved to be a nasopharyngeal lympho-epithelioma with intracranial extension through the foramen lacerum.

Read at the meeting of the Arizona Division of the American Cancer Society, Phoenix, Arizona, January 14 to 16, 1960.

Section of Surgical Pathology, Mayo Clinic and Mayo Foundation, Rochester, Minnesota.

The Mayo Foundation, Rochester, Minnesota, is a part of the Graduate School of the University of Minnesota.

This is an example of a truly back-door approach to the problem. At times a side-door approach also can provide surprises.

Dr. Comess, Dr. Beahrs, and I studied 1100 patients with diagnosis of metastatic carcinoma involving cervical nodes. In 1000 of these the location of the primary growth was discoverable, and the nasopharynx provided its expected share. Among the remaining 100 cases, careful study revealed no evidence of a primary focus. Yet three years of follow-up unmasked no fewer than 17 nasopharyngeal, tonsillar, or laryngeal growths in these hundred cryptic cases. As a result of this study we now are making "blind" biopsies of the nasopharynx in patients presenting with this type of cervical nodal problem. In many instances we are uncovering examples of lymphoblastomas and allied tumors which otherwise would have eluded detection — and treatment — until much precious time had elapsed.

CANCER OF THE NASOPHARYNX

Normal Histology. — Classifications of primary epithelial and connective tissue tomors of the nasopharynx make more sense if we recall certain facts of the normal histology of this region. The anterior and upper parts are covered by

transitional, stratified, columnar, ciliated epithelium intermingled with mucous glands, some of which are of the salivary type. The lower portions are invested with squamous epithelium which sometimes is so intimately associated with ridges of lymphoid tissue as to merit the designation of lymphoepithelium. The cells of the pharyngeal and tonsillar foci of lymphoid tissue show metaplasia toward the plasma cell type, and the whole is embedded in a loose stroma of fibrous connective tissue. The table shows a listing of the neoplasms constructed of the histologic building-stones mentioned above. In practice the differentiation is less clear: malignant neoplasms of the nasopharynx are among the most commonly misdiagnosed, the most poorly understood, and the most pessimistically regarded of all tumors of the upper respiratory tract.

Incidence of Cancer. Cancers of the nasopharynx are rare, probably accounting for less than 1 per cent of all cancers after allowance for those that remain undiagnosed. In the Western Hemisphere, squamous and transitional cell cancers constitute the majority of the lesions; but among Eastern peoples, particularly Chinese and Indonesians, lympho-epitheliomas and lymphosarcomas are more common. In the city of Hong Kong, lympho-epitheliomas of the nasopharynx are encountered more frequently than are cancers of the breast.

The etiology of these lesions is obscure.

My colleagues will speak of the interesting clinical syndromes evoked by these growths. Let us now examine briefly the histopathologic features displayed by the tumors listed in the table.

Epithelial Tumors. Squamous Cell Carcinomas. — Hewing to the line in diagnosing epithelial tumors, and designating as "squames" only those which exhibit pearly-body formation or the presence of kerato-hyaline material, one arrives as did Scanlon, Devine, and Woolner, at an incidence of 20 per cent. Less than 10 per cent of squamous cell tumors are strictly and lastingly localized; and though only 35 per cent involve nodes when first seen, the tendency to compress cranial nerves and destroy the bones at the base of the skull is greater than that of the other types. Such squamous cell growths appeared to be relatively radioresistant, in our hands, and we had no cures among patients with this type of lesion in a 5-year period of study.

Transitional Cell Carcinoma and Lympho-epithelioma. — These two lesions are classed together because their separation is difficult histologically and they seem similar in their life histories, including response to treatment. Together they comprised 66 per cent of the tumors studied. In half of the combined group the exact point of origin could not be ascertained, since the tumors were bulky. The fossa of Rosenmüller and the vault of the nasopharynx appeared to share a predilection of the others. Nodular rather than ulcerative, these types involved cervical nodes in 80 per cent of cases; and indeed, cervical lymphadenopathy was the primary presenting complaint in more than half. Involvement of cranial nerves and invasion of the skull base were not so pronounced as with squamous cell cancers. Five-year survivals were in the neighborhood of 20 per cent. No patient survived with osseous involvement plus cervical nodal metastasis.

It was of extreme interest that when first seen with a carcinoma of the nasopharynx only 2 per cent of the patients exhibited evidence of generalized metastasis.

Glandular Neoplasms. — Glandular tumors of a malignant or semimalignant nature comprise an important minority of the neoplasms found in the nasopharynx. Only a few were seen in the 5-year series just presented, but over a longer span of time we have encountered more than a hundred of them. Most of them resemble salivary glandular growths; and with the exception of a rare papillary mucous adenocarcinoma resembling colonic adenocarcinoma and found mostly in the nose, they probably do arise from ectopic salivary glandular tissue. A few others develop from mucous glands.

A myxoid and sometimes cartilaginous stroma containing groups of glandular cells is found in *mixed (semimalignant) tumors.* They are prone to recur but do not metastasize except on rare occasions or following malignant metaplasia after many years of slow progressive expansion. Resemblance to mucocele or to retropharyngeal abscess can be so striking that the diagnosis sometimes is made only after the growth has

been "lanced." Havens has reported recently a series of 42 pharyngeal and nasopharyngeal mixed tumors seen at our clinic and has discussed transoral and lateral approaches for their removal.

Being truly malignant glandular tumors, *cylindromas* must be distinguished from the mixed tumors with which they formerly were confused. They are characterized by honeycombed cylinders of closely-packed, small, dark-staining cells. Involvement of perineural lymphatics is practically pathognomonic of this type of neoplasm, of which we have observed 10 nasopharyngeal examples. They recur regularly and in the later stages of their development they metastasize almost regularly. They are the most difficult of all glandular tumors to eradicate.

Miscellaneous carcinomas — *mucoepidermoids, acinic-cell carcinomas, and papillary, mucous, and other adenocarcinomas* — are found occasionally as primary nasopharyngeal new growths.

Connective Tissue Cancers. Malignant Lymphoma (Lymphosarcoma). — The nasopharynx may present secondary masses in cases of generalized malignant lymphoma and lymphatic leukemia. Ordinarily they do not affect the overall situation unless the eustachian tubes are obstructed. Malignant lymphoma may occur also as a primary tumor of the lymphoid tissue in this region. Such tumors are in fact relatively frequent, comprising from 5 to 10 per cent of nasopharyngeal malignant lesions. They resemble lympho-epitheliomas in their behavior, and even microscopically the two lesions may be difficult to tell apart. (Five-year survivals were 25 per cent in our series of cases.)

Plasma Cell Myelomas — Patients with multiple myeloma of bone sometimes exhibit masses in the upper respiratory passages. However, the literature has reference to some 150 cases in which the nasopharyngeal myeloma apparently was primary. We have observed 15 examples of this situation. Half of these localized lesions involved adjacent cranial bones by contiguity and half appeared to exist as purely soft tissue neoplasms. The former carried a worse prognosis than did the latter; but in both categories, long-term studies often disclosed typical disseminated myeloma with osseous involvement.

Others — Fibrosarcoma, angiosarcoma, mesodermal mixed tumor, and rhabdomyosarcoma appear occasionally as primary soft tissue tumors in this region. Cervical chordoma and other malignant bone tumors also arise occasionally. Sarcomas of the nasopharynx tend to develop at younger ages than do the carcinomas.

CANCER OF THE LARYNX

Comparison of the primary malignant neoplasms of the larynx with those of the nasopharynx shows that the laryngeal types are much simpler to classify. Ninety-five per cent of these growths are squamous cell cancers; only 5 per cent are adenocarcinomas, sarcomas, and so forth. However, the growths in the various segments of the larynx show such ranges with respect to degree of aggressiveness that study of this problem becomes complex.

Six hundred laryngeal growths observed during a 5-year period at the Mayo Clinic were reviewed by Kuhn, one of our fellows in otolaryngology, with particular attention to their metastasizing capabilities. Over-all, the incidence of metastasis was 31 per cent. Sixty-six per cent of the lesions were primarily cordal, and two-thirds of these were actually confined to the true vocal cords. Fifteen per cent of this cordal group were in situ cancers often associated with leukoplakia. None of the in situ neoplasms metastasized, but seven recurred as infiltrating lesions, and metastasis occurred once from an infiltrative lesion that was confined entirely to the true vocal cord.

Two reasons are apparent to explain the low degree of aggressiveness displayed by these primary cordal growths: (1) 80 per cent of the lesions were of low grade on the Broders scale, and (2) the lymphatic drainage of the true cords is very poor. My colleagues will emphasize these points in the section on treatment.

When tumors primarily cordal extended to involve one of the adjoining zones, such as the ventricle of the larynx or the subglottic space, the incidence of metastasis was 30 per cent; but it became apparent that the farther from the true cords a primary laryngeal cancer was located, the greater the chance for involvement of cervical nodes. The rate of cervical metastasis

was 60 per cent for subglottic tumors, 40 per cent for vestibular, 75 per cent for epiglottic, and 80 per cent for neoplasms primary in the pyriform sinus and postcricoid areas. Incidentally, tumors in the latter location were much more common among women than among men and were sometimes associated with the Plummer-Vinson syndrome.

Among all the primary extra-cordal lesions, the incidence of metastasis was 57 per cent. An extra-cordal location correlated with high degrees of anaplasia on the Broders scale and with extrinsic involvement other than by means of positive nodes.

Perhaps we should make special mention of squamous cell neoplasms of the epiglottis. They comprise 10 per cent of primary laryngeal tumors, and 90 per cent of them are found in males. The vast majority arise from the posterior surface and early invade its lower or fixed portion. Only rarely is such a growth seen in its early stages when the free fringes of its margin or tip are affected. Cancers of the epiglottis, in contrast to those of true vocal cords, are anaplastic on the Broders scale and they soon perforate the elastic cartilage to invade the pre-epiglottic space, producing cervical nodal involvement in 75 per cent of cases — often bilaterally.

Laryngeal malignancies other than "squames" comprise a small segment, often appearing in the literature as individual case reports. My colleague, Dr. Parkhill, surveyed our clinic series several years ago. Among the tumors in her group of 26 cases, sarcomas outnumbered adenocarcinomas in the ratio of 4 to 1, with fibrosarcoma leading the list. Cylindromas made up the majority of the adenocarcinoma group and all were fatal. In one case of malignant melanoma of the larynx, no other primary source could be defined.

Malignant and Semimalignant Tumors of Nasopharynx: Histologic Types

- Epithelial
 - Squamous cell carcinoma
 - Transitional cell carcinoma
 - Lympho-epithelioma
 - Glandular neoplasms
 - Mixed tumor (semimalignant)
 - Cylindroma
 - Miscellaneous
- Connective tissue
 - Lymphosarcoma
 - Myeloma
 - Fibrosarcoma and others

The Association of American Medical Colleges will begin accepting 1962 applications for the unique foreign fellowship program which offers future American physicians an opportunity for medical study in underdeveloped areas of the world. For the third year, Smith Kline & French Foreign Fellowships are being offered to junior and senior students in U. S. medical schools. Descriptive brochures and application forms have been mailed to all deans, states Dr. Ward Darley, Executive Director of the Association. Doctor Darley emphasized the closing date for filing applications is December 31, 1961.

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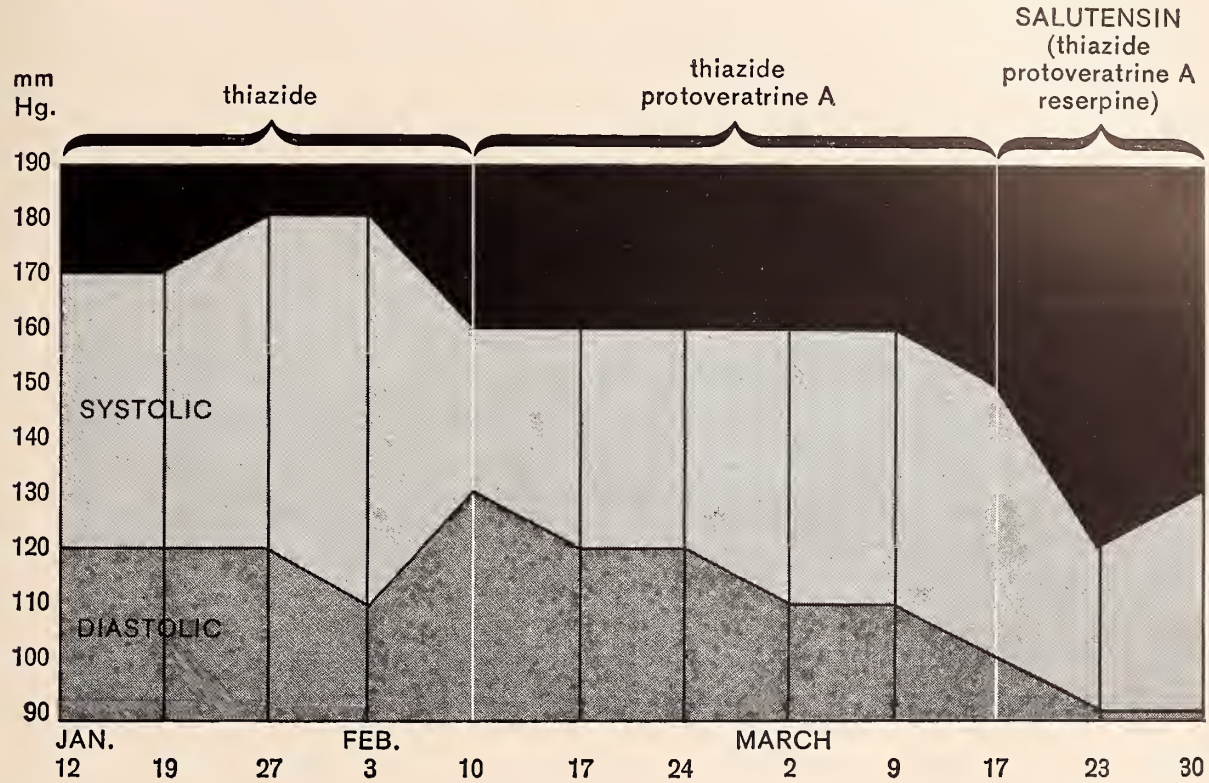
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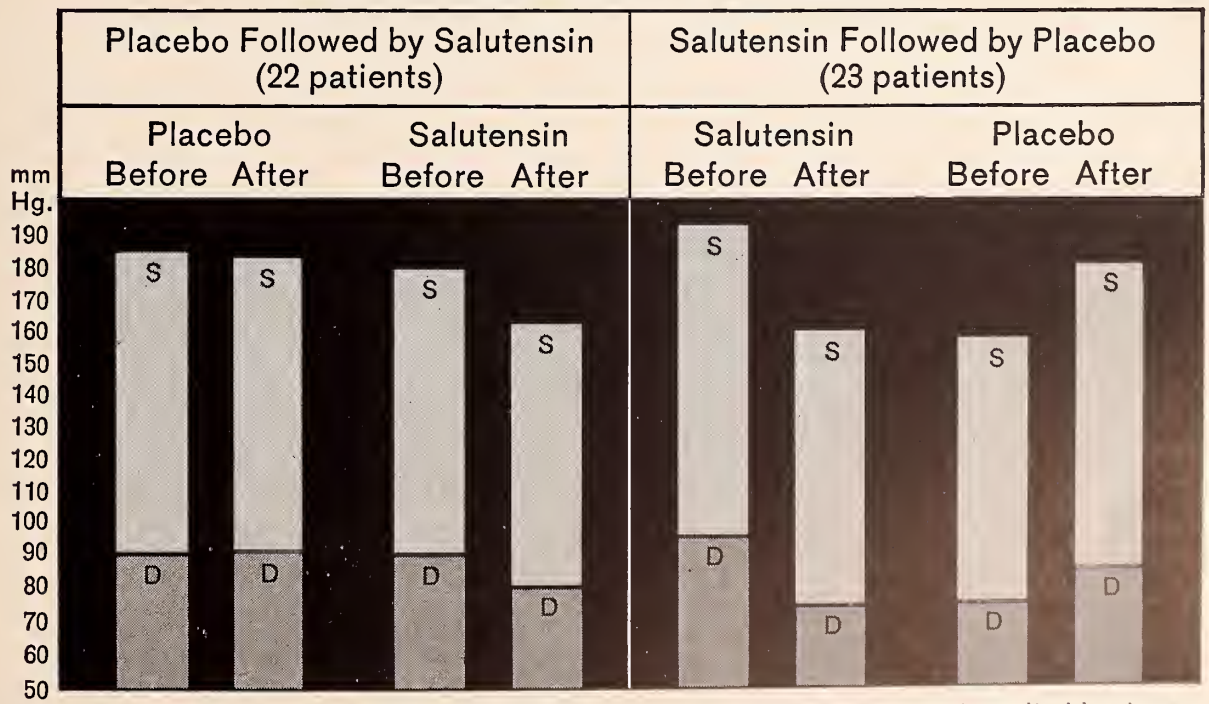
11 WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS BY SERIAL ADDITION OF THE INGREDIENTS IN SALUTENSIN IN A TEST CASE

(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



3½ WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS USING SALUTENSIN FROM THE START OF THERAPY IN A "DOUBLE BLIND" CROSSOVER STUDY

Mean Blood Pressures—Systolic (S) and Diastolic (D)



In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

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BRISTOL

Hysterectomy: Abdominal or Vaginal

J. G. Moore, M.D.

The choice between abdominal and vaginal hysterectomy should not be viewed competitively. Each method has its indications and contraindications; each its advantages and disadvantages. The training and experience of the operator will determine the choice in those patients suitable to either approach.

THE FIRST successful abdominal hysterectomy was an unplanned procedure performed in June of 1853 by Walter Burnham of Lowell, Massachusetts. He had operated expecting to find a large ovarian cyst. Upon the opening of the abdomen the patient vomited, uterine fibroids extruded and they could not be replaced. Seemingly against his better judgment, Burnham was forced to do a hysterectomy and the patient lived.

Three months later the first deliberately planned successful hysterectomy was performed in the community by Gilman Kimball. Burnham later performed 14 additional hysterectomies and, in all, only 3 patients lived beyond the immediate postoperative period.

During the same decade the first planned vaginal hysterectomy was performed for simple, uncomplicated uterine prolapse. It was carried out by Doctor S. Choppin of New Orleans in 1861. Prior to this time vaginal hysterectomy had been attempted as early as 1813 with eminently unsuccessful results. These procedures represented heroic but futile attempts to deal with fungating cervical cancers or gangrenous, irreduceably prolapsed uteri. Understandably it was not until 1878 that Czerny performed the first successful vaginal hysterectomy for fibroids.

From these dangerous and precarious beginnings, it became only a matter of time before the advances of surgical asepsis, anatomic surgery, and anesthetic methods would bring some degree of safety to hysterectomy as a planned clinical procedure. Thus, L. A. Stimson of New York following the lead of Professor J. Mikulicz introduced the practice of ligating the ovarian and uterine arteries in their course preliminary to the uterine excision. With this advance the hazardous crushing and mass ligation of the cervical stumy was in large part eliminated. The refinement of peritonization of the stump is largely credited to R. Kaltenbach and to T. A. Emmet who described the utilization of the bladder peritoneum for peritonization. The historical features of the development of hysterectomy as a planned procedure are superbly documented in Ricci's classic volume, "One Hundred Years of Gynaecology."

Presented at the Arizona Chapter of the American College of Surgeons' Fall Clinical Congress, Tucson, November 18, 1960.
From the Department of Obstetrics and Gynecology, UCLA School of Medicine, Los Angeles 24, California.

In 1881 E. Bardenheuer performed the first well-planned total hysterectomy and by 1892 W. M. Polk reported 17 abdominal panhysterectomies for fibroids with only two deaths. Thus by the turn of the century hysterectomy had achieved a substantial degree of professional acceptance. Today simple total hysterectomy claims a respectable operative mortality of 0.1 per cent.

TABLE I

Landmarks in Development of Hysterectomy

1853 — Walter Burnham — First Successful Abdominal Hysterectomy

1853 — Gilman Kimball — First Successful Planned Abdominal Hysterectomy

1861 — S. Choppin — First Successful Vaginal Hysterectomy for Simple Uterine Prolapse

1878 — V. Czerny — First Vaginal Hysterectomy for Fibroids

1880 — J. Mikulicz, L. A. Stimson — Anatomical Principles of Vascular Ligation

1881 — B. Bardenheuer — First Well Planned Total Hysterectomy

1884 — T. A. Emmit, R. Kaltenbach — Peritonization and Management of the Cervical Stump

1892 — W. M. Polk — 17 Total Hysterectomies with 2 Operative Deaths

CHOICE OF PROCEDURE

With the establishment of both abdominal and vaginal hysterectomy on a safe clinical basis, the choice between the two operative approaches quite naturally becomes the subject of preferential comparison. Surgeons generally develop a preference of one approach over the other. Certainly the training and experience of the individual operator will affect his choice of procedure. It naturally follows that the general surgeon working largely in the abdomen would feel somewhat less comfortable with the vaginal approach than would the gynecologist.

Even geographical areas become noted for the choice of a particular type of hysterectomy carried out by its medical personnel. Chicago, for example, has become known among gynecologists as a medical community in which a larger than usual percentage of vaginal hysterectomies are performed.

While preferences develop and while individual operators may feel more at home with one approach than another, the choice between abdominal and vaginal hysterectomy should not be viewed competitively. Each has its advantages and disadvantages, but more important each has its specific indications and contraindications.

The choice between vaginal or abdominal hysterectomy should be based not so much on the technical preference of the operator but largely on the clinical findings in the individual patient. This dissertation concerns the choice of operation as determined by the clinical problem at hand.

INDICATIONS

When a logical choice is made in the selection of vaginal or abdominal hysterectomy, a large number of series have shown comparable morbidity and mortality rates. Several general statements can be made regarding the choice of approach in the individual patient and these principles are outlined in Tables II, III, and IV.

TABLE II

Indications for Abdominal Hysterectomy

1. Enlarged Uterus
2. Uterine Cancer
 - Endometrial Carcinoma
 - Cervical Carcinoma
3. Incidental to Adnexal Excision
 - Ovarian Neoplasia
 - Pelvic Inflammatory Disease
 - Endometriosis
4. Functional Uterine Disease Without Vaginal Relaxation
 - Recurrent Menorrhagia
 - Pelvic Congestion
 - Severe Dysmenorrhea } Rare
 - Extensive Chronic Cervicitis }

The prime indication for abdominal hysterectomy is the large uterine myomata. Certainly the uterus should be no more than 2-2½ times the normal size if it is to be removed vaginally. Of course, the uterus can be removed by morcellation (piece meal) if it is too large to be delivered at the time of vaginal hysterectomy. This fragmentation is an uncertain procedure on many occasions and is often associated with an inordinate blood loss. It is true that the vaginal procedure can be abandoned if necessary and the hysterectomy completed abdominally, but this change is most disappointing, time consuming and the operation is usually com-

pleted under uncertain conditions of patient stability.

Abdominal hysterectomy is almost always the procedure of choice for either cervical or endometrial cancer when hysterectomy is indicated. Generally, however, cervical cancer should be treated by irradiation. Total hysterectomy and bilateral salpingo-oophorectomy following preoperative irradiation is considered the preferred treatment for endometrial cancer. Since the adnexa must be removed and since it is mandatory to explore the upper abdomen, abdominal hysterectomy is indicated for uterine cancer.

For endometrial cancer, the hysterectomy must be of the simple, extrafacial total type. The patient whose endometrial cancer extends into the cervix must be treated essentially as a patient with cervical cancer. She is either subjected to full cancericidal irradiation or to a radical hysterectomy.

On rare occasions the patient with uterine cancer may be treated by vaginal hysterectomy. The extremely obese woman with endometrial cancer may be subjected to vaginal hysterectomy with removal of the adnexa by this route. Intraepithelial cervical cancer can be managed by vaginal hysterectomy just as well as by the abdominal approach, indeed preferably, if there is some vaginal relaxation. In this instance it is not necessary to remove the adnexa.

When hysterectomy is done as a consequence of bilateral adnexal excision — and the uterus should almost always be removed when both ovaries are removed — it is generally associated with endometriosis, pelvic inflammatory disease, or ovarian neoplasia. These conditions require sufficient room for adequate dissection, full abdominal exploration is desirable, and technically the vaginal approach is not feasible. There are occasional instances wherein a small uterus may be excised vaginally in the face of minimal endometriosis or an inactive hydrosalpinx, but these are generally chance findings and not part of the planned procedure.

When a relatively small uterus (less than 2-2½ x the normal size) is to be removed for functional disease and there is no associated vaginal relaxation, the approach is generally of the abdominal type. These indications are usually associated with recurrent unresponsive meno-metrorrhagia, severe and extensive chronic cervicitis, pelvic congestion, or severe and disabling dysmenorrhea. Except for recurrent menorrhagia these diagnoses are not sound indications for hysterectomy. With such diagnoses, hysterectomy is considered only with incapacitation and in the age group of the late thirties and forties. Vaginal hysterectomy without vaginal relaxation is also somewhat of a therapeutic oddity and in these instances the hysterectomy is more logically effected by the abdominal approach.

TABLE III

Indications for Vaginal Hysterectomy

1. Uterine Prolapse, Postmenopausal
2. Vaginal Relaxation, with Associated Reason for Hysterectomy
 - Recurrent Menorrhagia
 - Intraepithelial Carcinoma
 - Dysmenorrhea, Disabling
 - Chronic Cervicitis, Severe
 - ? Sterilization
3. Benign Uterine Disease, without Relaxation
 Rarely Indicated

Most surgeons feel that a vaginal hysterectomy with a thorough vaginal plastic repair is indicated in the menopausal or postmenopausal woman suffering with a uterine prolapse. It is the prevalent opinion that the plastic repair can be accomplished just as well during the course of vaginal hysterectomy as when the uterus is preserved. Many feel that the uterus is of little value in this age group, that it represents a potential site of cancer, and that it should be removed as an incidental procedure in the course of a good plastic repair.

On the other hand, there are those who feel that there is less vaginal shortening, fewer vaginal strictures, and a better functional vagina results if a hysterectomy is not done as part of the repair.

There is something to be said for each point of view. Each method is taught in recognized clinics throughout the United States. A unanimous dictum however is that abdominal hysterectomy is not indicated for the correction of simple uterine prolapse.

The prime indication for vaginal hysterectomy

is really a double indication. It should include a symptomatic vaginal relaxation and a reason for excising the uterus. The symptoms of the vaginal relaxation are usually stress incontinence, bearing-down feeling, bulging at the vagina, and low (sacral) back-ache. When the uterus is not enlarged, the usual indication for hysterectomy is recurrent menorrhagia, dysmenorrhea, and possibly grand multiparity. Often hysterectomy in the presence of an asymptomatic vaginal relaxation provides an acceptable method of sterilization in the face of a large family.

TABLE IV

Factors Which Influence the Choice of Vaginal or Abdominal Hysterectomy

Parity
Obesity
Previous Pelvic Survery
Age
General Condition of the Patient

The two indications, one of vaginal relaxation and the other of uterine abnormality, provide sufficient reason for vaginal hysterectomy. Without the reason or desire for hysterectomy a vaginal plastic procedure of the Fothergill type is entirely adequate.

In the nulliparous woman without vaginal relaxation there are few indications for vaginal hysterectomy. Some who are extremely adept at the procedure may elect vaginal hysterectomy on strict indication when the patient is very obese or who would be poorly served by an intra-abdominal procedure. Generally such patients are served best by abdominal hysterectomy.

CONTRAINDICATIONS TO VAGINAL HYSTERECTOMY

There are certain conditions which appear to be logical contraindications to vaginal hysterectomy. Many of them are listed as the indications for abdominal hysterectomy.

TABLE V

Contraindications to Vaginal Hysterectomy

1. Uterus 3 times or more than Normal Size
2. Ovarian Tumors
3. Uterine Cancer
4. Pelvic Inflammatory Disease
5. Endometriosis
6. Previous Pelvic Surgery
7. Nulliparous, Narrow Vagina
8. Postirradiation Fixation

Often in the presence of a vaginal relaxation one is tempted to carry out a vaginal hysterectomy in the face of one of the contraindications listed in Table V. This choice is unwise and is destined to lead to a higher morbidity rate and many more complications. As indicated in the discussion above there may be instances wherein vaginal hysterectomy may be carried out under these conditions, but they must be exceptions and there must be a good reason for the exception. If the surgeon starts a vaginal hysterectomy in the face of previous pelvic surgery or with a past history of pelvic inflammatory disease, he must be prepared to switch to the abdominal approach if adhesions, lack of mobility, or adnexal disease make persisting with the vaginal hysterectomy unduly dangerous.

COMPLICATIONS

Complications occur with both types of hysterectomy. Evaluation of recent series indicate that there are more urinary infections and more urinary retention associated with vaginal hysterectomy. There is more ileus and thrombophlebitis following abdominal hysterectomy. The morbidity rate (temperature above 38°C during two 24-hour periods) is higher with vaginal hysterectomy, but wound dehiscence is more of a problem with abdominal hysterectomy. Bladder injury is more common with vaginal hysterectomy, but ureteral injury is more common with the abdominal approach.

In large part the older patient tolerates vaginal surgery better than abdominal surgery. Complications of vaginal surgery, which is more superficial in approach, and which does not require as deep anesthesia, are usually less critical than with abdominal surgery. Though the urinary complications and vaginal discomforts are more frequent and very disconcerting, and they seem inevitably to occur with vaginal hysterectomy. The few cases of ileus, peritonitis, and wound dehiscence that occur with the abdominal approach are generally more serious.

In the past each patient stayed in the hospital about the same length of time: 11 days was a general average figure for each. Now, the patient who has had an abdominal hysterectomy is going home sooner since she is usually free of the urinary difficulties. But if one com-

pared only the vaginal hysterectomies who do not have an associated repair procedure with those who have had abdominal hysterectomy, they would undoubtedly find comparable hospital stays. Hematomas are a disconcerting and worrisome reason for the prolongation of the hospital stay with vaginal hysterectomy.

In comparing the long term effects of abdominal and vaginal hysterectomy one is struck by the large number of recurrences of the vaginal prolapse following vaginal hysterectomy. This figure will vary between 4 and 20% depending on the length of the follow-up period. Analysis of the material indicates that the recurrences in large part occur in women who previously had a uterine prolapse and the vaginal hysterectomy was performed in association with the plastic repair. It is therefore understandable that few women would develop a prolapse of the vaginal vault following an abdominal hysterectomy unless the procedure was done ill-advisedly for uterine prolapse.

Vaginal hysterectomy performed in association with a plastic repair will be associated with a certain incidence of vaginal shortening and some vaginal stricture. It is unlikely that this complication will occur with a vaginal hysterectomy done without an associated repair or following an abdominal hysterectomy.

TABLE VI

Common Complications of Vaginal Hysterectomy

1. Hemorrhage
2. Urinary Infection
3. Urinary Retention
4. Pelvic Infection
5. Prolapse of Vaginal Vault
6. Enterocele
7. Thrombophlebitis
8. Urinary Tract Injury

TABLE VII

Common Complications of Abdominal Hysterectomy

1. Hemorrhage
2. Ileus
3. Urinary Infection
4. Wound Infection
5. Wound Dehiscence
6. Thrombophlebitis
7. Ureteral Injury
8. Atelectasis

ADVANTAGES AND DISADVANTAGES

In analyzing complications and results one is necessarily brought to comparing the advantages of each of the two approaches. These considerations may be summarized in the following tables.

TABLE VIII

Advantages and Disadvantages of Abdominal Hysterectomy

Advantages

Better Exposure
Can Explore Abdomen
Maximal Access to Adnexa
Field Less Bloody
Less Urinary Difficulty

Disadvantages

Cannot Correct Vaginal Relaxation
More Ureteral Injury
Greater Chance of Serious Wound Dehiscence

TABLE IX

Advantages and Disadvantages of Vaginal Hysterectomy

Advantages

No Scar
Allows Vaginal Repair
Better Tolerated in Elderly Patients
Lighter Anesthetic Needed
Less Paralytic Ileus
Fewer Adhesions

Disadvantages

Poor Exposure
Bloody Field
Limited Access to Adnexa
Inability to Explore Abdomen
Shortening and Stricture of Vagina

Even a casual glance at these tables indicates that the advantages and disadvantages of either method dictate the choice of vaginal or abdominal hysterectomy in a given patient. The clinical considerations in the patient determine the choice and one is struck by the simplicity of that choice.

The large uterus, fixed by the adhesions of endometriosis, inflammation, or previous surgery should be approached abdominally. The relatively small uterus lying free within the pelvis and associated with a vaginal relaxation is the prime candidate for vaginal hysterectomy. The preference and experience of the operator will determine the choice in only those cases lying between such limits.

Surgical Therapy Recorded In the Early Egyptian Period

Howell Randolph, M.D.

An interesting survey of five cases taken from the Edwin Smith Papyrus, copied in 1800 B.C., probably from a manuscript written 2500-3000 B.C.

A SURVEY of the history of surgery during the last five millennia gives eloquent evidence of the periods of its growth and decline corresponding to favorable or unfavorable government attitudes. In searching the records of the dark ages and the early Renaissance, one finds discouraging indications that knowledge of anatomy and of definitive surgical therapy was scanty and presumably had declined below that of the Greek Period. It was apparently limited to the treatment of injuries by suturing and by bone setting and to the use of the cautery for inflammatory disease.

In tracing the surgical techniques backwards through the history of mankind one finds a great dearth of surgical therapy during the post-Galen period, a marvelous expansion of knowledge of surgery and anatomy and of manipulation therapy during the period of Hippocrates in Greek medicine, then a relatively blank period lasting a thousand years or more going back into the early Assyrian and Babylonian times to the earliest records of Egyptian medicine.

Perhaps the most astounding historical discovery important to surgery of our generation was the finding of the Edwin Smith Papyrus which he acquired in Luxor in 1862. Edwin Smith was born in Connecticut in 1822, the year that Champollion published the first decipherment of the Egyptian hieroglyphic language. Smith studied Egyptology for many years and lived in Egypt for some 20 years, but never published a translation of his manuscript. The Smith Papyrus languished in the Archives of the New York Historical Society several years after Smith's death until the great Egyptologist James Breasted was persuaded to undertake its translation. Breasted had had a brilliant career in Egyptology and brought a thoroughly trained, brilliant mind to the task which took 10 years interspersed with important archeological work.

Thus the earliest textbook of surgery was papyrus copied in 1800 B.C., coming down to us as the Edwin Smith Papyrus, and was probably from manuscript originating between 2500 and 3000 B.C. It consists of a scroll some 16 feet in length, containing some 21½ columns of writing in the hieratic script. Breasted translated this into the hieroglyphic form and it is thus printed in detail in this extensive work published in 1930.(1).

This work was of particular interest to Egyptologists but of inestimable value to the student of the history of surgery. It is organized system-

Presented to the Phoenix Society for the History of Medicine, Phoenix, Arizona, March 4, 1961.

atically with injuries to the cranium and head, face, neck, shoulder, and thorax progressively. Each case is described as to the symptoms, diagnosis, and variations of treatment. Forty-eight cases were published, six of which are herewith included, as illustrations of the detail and method. Significant it is that this translation is dedicated to William Harvey on the 300th Anniversary of his discovery of the circulation. Yet from the commentary and discussion of the translation of this work, it is quite apparent that the Egyptian knowledge of the circulation was in advance of that of European, the later medical and surgical concepts in the period 500 to 1500 A.D. The anatomy of the blood vessels and the function of the heart in pumping the blood was partially understood 3000 years ago, and the pulse was an important symptom!

The challenge is to discover the limit of the surgical and medical knowledge during antiquity. Certainly one is stimulated to believe that we have underestimated the extent and capacity of our early forebears in respect to this knowledge.

There follow selected case reports illustrating points of unusual interest. These are taken from a copy of the book lent to me by the son of the author, Mr. Charles Breasted, now a resident of Tucson. In case one it will be seen that considerable knowledge of the circulation was in the text books of that day. The use of wound sutures, adhesive plaster and molded splints for fractures were described; cautery for opening abscesses was recommended.

QUOTED VERBATIM

CASE ONE

Bottom lines of last column I 12

A WOUND IN THE HEAD PENTRATING TO THE BONE

TITLE

(Instructions concerning a wound in his head, penetrating to the bone of his skull)

EXAMINATION

If thou examinest a man having a wound in his head, penetrating to the bone of his skull, (but) not having a gash, thou shouldst palpate his wound (or, thou shouldst lay thy hand upon it); shouldst thou find his skull uninjured, not having a perforation, a split, or a smash in it, (conclusion in diagnosis).

DIAGNOSIS

Thou shouldst say regarding him: "One having a wound in his head, while his wound does not have two lips, . . ., nor a gash, although it penetrates to the bone of his head. An ailment which I will treat."

TREATMENT

Thou shouldst bind it with (fresh meat) the first day (and) treat afterward with grease, honey (and) lint every day until he recovers.

GLOSS A

There are canals (or vessels,) in it (the heart) to every member. Now if the priests of Sekhmet or any physician put his hands (or) his fingers upon the head, upon the back of the head, upon the two hands, upon the pulse, upon the two feet, he measures to the heart, because its vessels are in the back of the head and in the pulse; and because its pulsation is in every vessel of every member. He says "measure" regarding his wound because of the vessels to his head and to the back of his head and to his two feet . . . his heart in order to recognize the indications which have arisen therein; meaning to measure it in order to know what is befalling therein.

CASE TEN

V 5-9

A GAPING WOUND AT THE TOP OF THE EYEBROW, PENETRATING TO THE BONE

TITLE

Instructions concerning a wound in the top of his eyebrow.

EXAMINATION

If thou examinest a man having a wound in the top of his eyebrow, penetrating to the bone, thou shouldst palpate his wound, (and) draw together for him his gash with stitching.

DIAGNOSIS

Thou shouldst say concerning him: "One having a wound in his eyebrow. An ailment which I will treat."

TREATMENT

Now after thou hast stitched it, thou shouldst bind fresh meat upon it the first day. If thou findest that the stitching of this wound is loose, thou shouldst draw it together for him with two strips (of plaster), and thou shouldst treat it with grease and honey every day until he recovers.

GLOSS A

As for: "Two strips of linen," it means two bands of linen, which one applies upon the two lips of the gaping wound, in order to cause that one (lip) to join to the other.

CASE TWELVE

V 16 - V1 3

A BREAK IN THE NASAL BONE

TITLE

Instructions concerning a break in the chamber of his nose.

EXAMINATION

If thou examinest a man having a break in the chamber of his nose, (and) thou findest his nose bent, while his face is disfigured, (and) the swelling which is over it is protruding, (conclusion in diagnosis).

DIAGNOSIS

Thou shouldst force it to fall in, so that it is lying in its place, (and) clean out for him the interior of both his nostrils with two swabs of linen until every worm of blood which coagulates in the inside of his two nostrils comes forth. Now afterward thou shouldst place two plugs of linen saturated with grease and put into his two nostrils. Thou shouldst place for him two stiff rolls of linen bound on. Thou shouldst treat him afterward with grease, honey, (and) lint every day until he recovers.

CASE TWENTY-EIGHT

IX 18 -X 3

A GAPING WOUND IN THE THROAT PENETRATING TO THE GULLET

TITLE

Instructions concerning a wound in his throat.

EXAMINATION

If thou examinest a man having a gaping wound in his throat, piercing through to his gullet; if he drinks water he chokes (and) it comes out of the mouth of his wound; it is greatly inflamed, so that he develops fever from it; thou shouldst draw together that wound with stitching.

DIAGNOSIS

Thou shouldst say concerning him: "One having a wound in his throat, piercing through to his gullet. An ailment with which I will contend."

FIRST TREATMENT

Thou shouldst bind it with fresh meat the first day. Thou shouldst treat it afterwards with grease, honey (and) lint every day, until he recovers.

SECOND EXAMINATION

If, however, thou findest him continuing to have fever from that wound, (conclusion in following second treatment).

SECOND TREATMENT

Thou shouldst apply for him dry lint in the mouth of his wound, (and) moor (him) at his mooring stakes until he recovers.

CASE THIRTY-ONE

X 12-22

DISLOCATION OF A CERVICAL VERTEBRA

TITLE

Instructions concerning a dislocation in a vertebra of his neck.

EXAMINATION

If thou examinest a man having a dislocation in a vertebra of his neck, shouldst thou find him unconscious of his two arms (and) his two legs on account of it, while his phallus is erected on account of it, (and) urine drops from his member without his knowing it; his flesh has received wind; his two eyes are blood-shot; it is a dislocation of a vertebra of his neck extending to his backbone which causes him to be unconscious of his two arms (and) his two legs. If, however, the middle vertebra of his neck is dis-

located, it is an emissio seminis which befalls his phallus.

DIAGNOSIS

Thou shouldst say concerning him: "One having a dislocation in a vertebra of his neck, while he is unconscious of his two legs and his two arms, and his urine dribbles. An ailment not to be treated."

GLOSS C

As for: "While his urine dribbles," it means that urine drops from his phallus and cannot hold back for him.

CASE THIRTY-NINE
XIII 3-12
TUMORS OR ULCERS IN THE BREAST PERHAPS RESULTING FROM INJURY

Instructions concerning tumors with prominent head in his breast.

EXAMINATION

If thou examinest a man having tumors with prominent head in his breast, (and) thou findest that the swellings have spread with pus over his breast, (and) have produced redness, while it is very hot therein, when thy hand touches him, (conclusion follows in diagnosis).

DIAGNOSIS

Thou shouldst say concerning him: "One having tumors with prominent head in his breast, (and) they produce cists of pus. An ailment which I will treat with the fire-drill."

TREATMENT

Thou shouldst burn for him over his breast (and) over those tumors which are on his breast. Thou shouldst treat him with wound treatment. Thou shouldst not prevent its opening of itself, that there may be no mnhy-w in his wound (sore?). Every wound (sore?) that arises in his breast dries up as soon as it opens of itself.

The matter of prognosis was given careful attention, many cases being rejected. All cases were divided as to prognosis from the beginning — some were placed in the deferred category. In the description of each case the phrase recurrs — "a condition which I will (or will not) treat."

The use of fresh meat for 1st day dressings instead of mud or dung plasters, provided a near sterile dressing which could have been its virtue as found by experience.

With modern approach to archeology, we will probably find many new evidences of prior knowledge of surgical principles. It was Breasted's contention that antiquity held surprising secrets of civilization stretching farther into the past than we can know. This treatise makes the point very clear.

(1) "The Edwin Smith Papyrus" — James Breasted; University of Chicago Press 1930

THE EYE AND OLD AGE

Dr. A. L. Kornzweig in the summer issue of Sight Saving Review, 1961, published by the National Society for the Prevention of Blindness has made an interesting study in the home for aged and infirmed Hebrews in New York City. This study was carried out on 1,068 aged persons over sixty-five years of age. It was noted that 85% of individuals had vision of 15/70 or better which was considered adequate, while 15% had inadequate vision. Five to nine per cent of the population had glaucoma of varying degrees, and while cataracts were very common and present in 70% of the group, only 5% of the individuals with cataract were considered operable.

Macular degeneration was present in 30% of these individuals.

A. K. Hansen, M.D.

A Law Enforcement Officer Looks at Intoxication As an Accident Cause

Lt. T. H. Milldebrandt

Driving while intoxicated is the largest single cause of traffic accidents in Arizona and is responsible for 20% of the fatalities on the state road system. During 1959 the Arizona Highway Patrol (163 officers) booked 4,000 drivers for driving while under the influence of intoxicants. The use of road-blocks on the Tucson-Nogales highway. U.S. 89, reduced personal injury accidents by 66% and property damage accidents by 50%. On this highway, over a year's period, 739 drinking drivers were apprehended.

Lt. Milldebrandt excellently presents the situation encountered by the officers, explains the methods used in dealing with the problems of intoxication on the highway, and describes the types of infractions of vehicle codes, the methods of stopping involved vehicles, the examinations of drivers by observational, physical and written tests, and the use of the intoximeter.

MR. CHAIRMAN, delegates, and guests: On behalf of Superintendent G. O. Hathaway, it is a distinct pleasure to be able to be here today to speak to you.

I have notieed from your agenda that the subjeet of my talk today seems to be eompletely foreign to the rest of your subjeet matter, but it is one whieh is of vital interest to all of us in the State of Arizona who operate motor vehicles on our state highways.

I am not interested today and will not diseuss the subject of intoxieants from any moral viewpoint. As you are well aware there are many people in our state, and the nation, who feel that if there was never another drop of intoxieants produeed it would be too soon, and then there are others who just as positively feel that a person's drinking habits are his own business.

All we are interested in today, and all the Arizona Highway Patrol is interested in, is intoxieants as they relate to driving a vehiele on our state highways. We have no fight with the wets or drys, (WE DO HAVE A FIGHT AND WE ARE SWORN TO ENFORCE THE STATE LAWS AGAINST THOSE WHO DRINK AND DRIVE.)

The dry elements in our population would have us believe that the drinking driver causes over 50% if not nearly 100% of all of our traffic aeeidents. The so-called wets would have us believe that as low as 5% and possibly none of our aeeidents are eaused by the drinking driver. Onee again we will not argue these two viewpoints, however, our reeords indieate and we do know that during the year of 1959 in the State of Arizona 20% of our fatal aeeidents on the state highway system involved drivers that had been drinking. This makes driving while intoxicated the largest single cause of traffic accidents al-

Presented to the Arizona Chapter of the American College of Surgeons, Fall Clinical Congress, Tucson, November 19, 1960.

Director of Training and Public Information, Arizona Highway Patrol, Phoenix.

though when lumped together the so-called minor violations cause nearly 70% of all traffic fatalities.

Any cause which is responsible for 20% of the fatalities on our state system is of primary concern to the Arizona Highway Patrol and we make a concerted effort to attempt to control this problem. You may be interested to know that during the year of 1959 the 163 officers of our department booked 4,000 drivers for driving while under the influence of intoxicants. You may also be interested to know that this figure represents more intoxicated driving arrests than are made by the entire state police departments of the States of Michigan and New York.

I do not feel that this is because we have a proportionally larger drinking population in the State of Arizona, but for possibly three reasons:

1. Our intoxication law is better than that of Michigan.
2. Our officers concentrate much of their effort on this violation because we are convinced that it is serious.
3. With much of our state consisting of open highway, we can more easily make contact with those drivers we suspect to be under the influence.

While we are talking about statistics I would like to mention a local situation here in Tucson which very graphically points up the seriousness of the problem of the drinking driver. The Tucson-Nogales Highway, U.S. 89, had for many years prior to 1956 gained an unenviable national reputation as the El Camino De La Muerete or "The highway of death." Annually we were killing from 35 to 45 people on this highway, causing many injuries and losing countless thousands of dollars in property damage accidents.

The Arizona Highway Patrol instituted in 1956 what we have termed an adequate enforcement patrol on this highway. We set up roadblocks one mile south of Tucson and one mile north of Nogales and checked out every driver passing north or south of this highway during the hours of darkness. In addition to the roadblock activity we also stepped up the highway enforcement between the two roadblock points. For the 12 months just prior to the adequate enforcement program we experienced 35 fatalities on this stretch of highway. For the first 12 months of the adequate enforcement program we experienced only three fatalities (all of these in a one-car accident). The personal injury accidents were reduced by two-thirds and the property damage accidents by one-half.

During this same 12-month period our officers apprehended 739 drivers for operating their vehicles under the influence of intoxicants. For those of you who are not familiar with this area, this highway is some 62 miles long and 52 feet wide, and even a poor mathematician such as I can see that this 739 figure comes very close to being two intoxicated individuals a day.

I hope that this little review of the intoxicated driver situation has shown that it is indeed a problem in our state. At this point I would like to take you through a more or less hypothetical situation to show you how our officers deal with the problem of intoxication on the highway. I do this with considerable trepidation as most of the subject matter which I will be covering is very close to subjects with which you as medical people deal and I am sure that most of you in the audience are more competent in determining intoxication than myself.

There is a belief, quite common among some, that our officers simply travel about the state and willy-nilly stop a vehicle, jamb a balloon in the driver's mouth and tell him that he is intoxicated. There can be nothing farther from the truth as with 163 officers to cover some 5,000 miles of state highway our officers are much too busy to conduct this type of operation. We must by necessity, if not by good management principles, operate in a selective enforcement manner, which means putting our officers in the areas where violations and accidents are occurring and instructing them to look for those violations.

In order to come to the attention of one of our officers, a driver must commit some infraction of the Arizona Motor Vehicle Code. This infraction may possibly be one of the following:

1. Driving over the posted speed.
2. Weaving on the highway.

3. Driving without headlights.
4. Disregard of traffic signs or signals.
5. Very slow driving.

When an officer notices one of these irregularities he next attempts to stop the vehicle. At this point one of four things may occur:

1. Upon seeing the red lights and possibly hearing the siren, the subject car may pull to the right and stop as it is legally required to do. More than likely, however, if the driver is under the influence of intoxicants or drugs, he will:
2. Completely disregard the signal to stop which causes the officer to take more effective action in stopping the vehicle.
3. If the driver is a nervous individual he may throw up his hands and completely lose control of the car and run off the highway. Fortunately this does not happen too often.
4. Since the driver, like all of us has learned from childhood that red means stop, as soon as he sees the red "bug eyes" of the patrol car in his rearview mirror, he may immediately step on his brakes which causes our officer to become a contortionist in order to keep from striking the vehicle in the rear.

The manner in which the vehicle is stopped gives our officer a second indication of whether or not the person should be operating a vehicle on the highways of our state.

After the vehicle is stopped the officer will approach the vehicle and ask you for your driver's license, and the only thing he is interested in is your Arizona license, which is that black photostatic copy which you carry with you whenever you are operating a motor vehicle. He is not interested in your church membership card, your lodge card, your American Legion membership card or any identification material which may further identify you. When you hand him the driver's license he would like the driver's license *only,* for obvious reasons.

Regarding this you would be surprised how many people when they are stopped by an officer will pull out these accordion type billfolds which are now popular and show them to the officer hoping that one of the many cards will strike some familiar note with the officer which may temper his enforcement action.

I might mention that if it takes you a particularly long time to find your driver's license, the officer may come to the conclusion that if you can't focus your eyes enough to find your own driver license, you very probably can't focus them in order to properly navigate your vehicle down the highway.

I remember one instance, in this regard, when I stopped a lady on the Black Canyon Highway and when I asked her for her driver license she immediately produced her gasoline credit card. When I told her that I wanted her drivers license she stated: "Oh, yes, that's expired," whereupon she once again delved into her purse and this time handed me her current credit card. I might add that this lady, after further investigation, was booked in the Maricopa County jail for driving while under the influence of intoxicants.

After the officer has checked your driver's license, if he still suspects that you are driving while under the influence of intoxicants, he will invite you back to his patrol car. Normally he will not walk back to the patrol car with you but will attempt to get back there before you do. The reason for this is to see just how you make that long eight or ten foot trip from your car to his. If you can't make it without holding onto your car, the patrol car, or possibly ending up on all fours he once again has an indication that you shouldn't be operating a motor vehicle on the highway. After you get back to the patrol car, if the officer still suspects that you are under the influence of intoxicants or drugs, he will ask you to complete a series of three elementary physical tests.

The first test is what is known as the finger-to-nose test. The officer will ask you to stand with your two feet together, your hands out to your side and then he will ask you to close your eyes and bring both fingers together touching your nose . . . thusly. If you are a normal individual you will have no difficulty finding your

nose every time if you are not under the influence of intoxicants or drugs or do not have some physical impairment of your limbs. However, you would be surprised if you are under the influence of intoxicants or drugs how some times your nose seems prone to move about.

The second test is that the officer will ask you to stand on first your right foot and then your left foot. Once again if you do not have some physical impairment or are not under the influence of intoxicants or drugs you will not have any difficulty in doing this. In fact I could probably deliver this entire talk standing on one foot.

The third test is called the coin test. The officer will take two or three coins from his pocket, toss them on the ground and direct you to pick them up one at a time as designated. This particular test is patterned after one suggested by the Northwestern Traffic Institute and in their instructions they state that the officer should throw down on the ground a dime, quarter and a half dollar. The only difficulty with this is that the Northwestern professor that wrote this book never received the salary of an Arizona Highway Patrolman. Our officers don't normally carry this type of money but we poor Arizonans find that a couple of pennies and a nickel do just as well for the test. If the person isn't under the influence of intoxicants or drugs he can with very little trouble pick up the proper coin at the proper time, however, if he is under the influence of intoxicants or drugs the officer may very likely have to assist him before he buries his nose in the ground.

Now, I am sure that you can see that even at this point a layman could pretty well tell if this person should be operating a motor vehicle or not, but our officer's investigation does not stop here. We ask the officer to complete a so-called alcoholic influence form on the subject. I have one of those forms here, and would like to quickly read off some of the information contained on it. We ask the individual his name, address, age, sex, descent, weight, and occupation.

We ask him if he was operating this vehicle. The reason for this question is in accident cases where our officer does not actually see the person operating the car. We ask him where are you going? Where did you start from? When did you leave?

Where are you now? I might mention here that I once stopped a gentleman on the Black Canyon Highway some 24 miles north of New River and he told me he was 17 miles south of Sacaton. You can see that sometimes people get rather confused as to their location when they are under the influence of intoxicants.

We ask him what time is it now? Have you been drinking? What? Where? How much? Commenced and stopped?

I remember we used to ask people when they *started* rather than commenced drinking. I remember one elderly gentleman scratching his head and saying to me: "Well, son, when I was about 16, I guess." As you know what we are really trying to get at is when that particular day they began their drinking.

We ask him, are you ill? Have you been to a doctor or a dentist recently, if so when? If so, who and for what?

To you in the medical profession the reason for these questions is obvious, because upon some persons certain drugs have side affects which make them a menace on the highway. Although most of you will so-warn your patients, some of them disregard your warnings and drive anyway, and even though this is a violation of the Arizona Motor Vehicle Code, that is to drive under the influence of drugs, we are primarily interested in the driver's safety. If he is under the influence of drugs we want to get him to competent medical attention as soon as possible.

We ask him when he last ate and what? Do you have diabetes? Are you taking insulin?

The reason for this last question is that, as you know, subjects in a diabetic shock quite often react so that to a layman's eye they would appear intoxicated, and this is quite often aggravated by the fact that a diabetic may have had one or two drinks and therefore smell, as well

as act, intoxicated. Once again, if the person is a diabetic our officers want to get him to medical attention as quickly as possible.

Next we ask the driver if he has used a mouth wash recently? The reason for this question is that some of our regular customers, unfortunately we do have some drivers who are regular customers of our officers, will keep a bottle of mouth wash in the glove compartment and when they are stopped by an officer they quickly reach in the glove compartment, taking a big swig of the mouth wash, figuring this time they are really going to out-fox that patrolman. Unfortunately, for them, these subjects do not realize that most of the mouth washes which they use have more alcohol in them than the alcohol they were drinking in the first place. So in reality they are worse off using the mouth wash than they were in the first place.

We then ask the subject if he was hurt? Did he get a bump on the head?

The reason for these questions being that quite often a person with a concussion will act somewhat like an intoxicated individual.

We ask how much sleep did you get last night? How much today? We end the questioning up with, have you been drinking since the accident? What and how much? You would be surprised how many drivers who have one-car collisions will tell the officer upon his arrival that they didn't have a single thing to drink prior to the accident but after the accident, in order to calm their nerves, they downed a whole fifth while waiting for the officer's arrival.

After asking these questions we ask the officer to circle the description in the box on this sheet which most closely describes the physical appearance of the suspect.

1. We ask if on the subject's breath the odor of alcoholic liquor was: None, faint, moderate, or strong.
2. We ask if the suspect's facial color was: Apparently normal, flushed or pale.
3. We ask if the subject's clothes were: Orderly, mussed, soiled, disarranged or disorderly.
4. We ask if subject's attitude was either: Polite, cooperative, excited, indifferent, antagonistic, hilarious, cocky, talkative, carefree, stuporous or insulting.
5. We ask if there are any unusual actions on the part of the subject such as: Profanity, hiccuping, belching, vomiting or fighting.
6. We ask if the subject's eyes were: Apparently normal, watery, or bloodshot.
7. We ask if the pupils of the subject's eyes were: Apparently normal, dilated, contracted, or had a poor reaction to light.
8. We ask the officer to indicate how the person walked back to the patrol car, his walking and turning.
9. We ask the officer to indicate whether the subject passed or flunked the finger-to-nose test.
10. We ask if the subject flunked or passed the picking up coins test.
11. We next ask for the officer to indicate the subject's speech. Whether it was fair, slurred, stuttering, confused or incoherent, and we also ask if his choice of words was proper and if he was clear and enunciated correctly.

I am certain once again that you can see that even a layman, after asking all of these questions and making all of these observations, can be certain in his mind whether a person should or should not be operating a vehicle on our state highways.

At his point the officer has made up his mind whether or not the individual will either be released or will be booked for operating a motor vehicle under the influence of intoxicants. At this point he will offer the suspect the opportunity to take a chemical test for intoxication. It makes no difference whatsoever to our officer whether he does or does not choose to take this test, as for years prior to the enactment of the chemical test law in the State of Arizona our officers have booked, gone to trial and convicted thousands of drivers for operating under the influence of intoxicants.

The chemical test for intoxication can do one thing and one thing only, and that is prove that all of the assumptions which the officer has made up to this point are incorrect.

As I have said it is the policy of the Arizona Highway Patrol not to require an individual to take a chemical test for intoxication; however, the State of Arizona is unique in that it is the only state in the nation which currently has Supreme Court decisions to back up the use of reasonable force in administering a breath test.

I believe the reasoning behind this Supreme Court decision is that an individual's breath is his own until he releases it and then it is anybody's who can grab ahold of it and keep it. The Supreme Court in the State of Arizona has ruled that it is reasonable force to forcibly strap an individual in a chair so that his breath can be collected.

But may I repeat that although this decision is on the books, it is the policy of the Arizona Highway Patrol to not forcibly obtain any breath test evidence.

I would like to now give you a more or less dry run of how our officers administer an intoximeter test.

(INTOXIMETER DEMONSTRATION)

Very possibly all of which I have said has already been known by you and also very possibly I have not done anything to convince you that driving with intoxicants is really a hazard, so I would like to take this opportunity to show you some graphic evidence which I hope will prove to the contrary.

(COLOR SLIDE DEMONSTRATION)

Once again on behalf of Superintendent G. O. Hathaway it has been a distinct pleasure to speak to this group and if we have any remaining time and you have any questions which I may be able to answer, please feel free to ask them at this time.

The bootlegging of amphetamine drugs is consistently being punished by Federal prison terms. The heaviest sentence in the past year was given by U. S. District Judge Ashton H. Williams at Charleston, S. C. He sentenced Elton Joseph Miller, operator of Lucky's Truck Stop at Yemassee, S. C., to 2½ years in prison. Food and Drug Inspectors, posing as truck drivers, bought 5,000 amphetamine tablets from Miller in one purchase.

U. S. Department of
Health, Education, and Welfare
Food and Drug Administration
Washington 25, D. C.

Health Manpower Management

M. M. Van Sandt, M.D.

The basic requirements for the effective management of health manpower are apparent. Considerable work needs to be done, however, to refine the administrative techniques involved, to identify the required channels of communication and command, and to determine methods by which training, distribution, and effective utilization can be accomplished. Perhaps the most single important requirement for effective manpower management is the development of an effective organization at each level of government.

With careful organizational planning for resource management at all levels of government, we will take a long step toward ensuring that the health needs of the civilian population will be met in the event of a national disaster.

IN THE event of a national emergency or enemy attack upon this country, a marked disparity between the health requirements and the available resources can be anticipated. To a substantial degree, the survival of the nation will depend upon the prudent management of the remaining health manpower, supplies, and facilities.

The Office of Civil and Defense Mobilization and the Department of Health, Education, and Welfare have been concentrating on the development and implementation of programs that will assure the most efficient utilization of these resources and reduce to a minimum the disparity between the supply and the need. However, action at the Federal level is limited primarily to planning. Implementation to achieve true readiness can be accomplished only at the State and local level.

Supplies and facilities may be stockpiled, but there is no effective means of stockpiling skilled manpower. Planning must be directed toward alleviating the relative health manpower deficiencies by enhancement of capabilities through such measures as assignment, training, organization, and efficient utilization of those who survive.

RESPONSIBILITY

The proposed Presidential Executive Order delegating certain health mobilization functions to the Department of Health, Education, and Welfare directs the Secretary to prepare national emergency plans and preparedness programs covering the development, utilization, and management of health manpower. These requirements are detailed in the National Health Plan and the National Manpower Plan.

Recent Operations Alert and other studies demonstrate that with an all-out attack upon this country, casualties will number in the millions. Approximately 15 per cent of the total population will be victims of blast and thermal injuries and an additional 15 per cent will be subjected to radiation injury. These casualties would include approximately a third of the physicians, dentists, and professional nurses. The surviving manpower resource among those active practitioners in these three groups would total approximately 155,000 physicians, 60,000

Presented before the Medical-Health Section, Ninth U. S. Civil Defense Council Conference, Minneapolis, Minnesota, September 21, 1960.

Division of Radiological Health, Public Health Service, DHEW, Washington 25, D.C.

dentists, and 315,000 professional nurses.

These are the critical health manpower we look to for the care of approximatly 25 million surviving casualties and, at the same time, to treat approximately 10 million sick patients among the non-casualty population.

Extraordinary measures in resource management must be taken if the health needs of the surviving population are to be met even in the most austere manner.

Under delegation from the Secretary of the Department of Health, Education, and Welfare, the Public Health Service has initiated action to carry out its responsibilities in this field.

OBJECTIVES

The immediate objectives are the development of operational procedures for health manpower management to be instituted at the national and regional levels and the development of standards and guidelines to implement these procedures at the State and local levels. These goals can be attained only through the coordinated planning of all health organizations and agencies, both public and private.

The basic requirements for the successful administrative management of health manpower include the following:

1. Identification of the essential activities which require skilled health manpower (such as hospitals for casualty and non-casualty care, public health, industrial health, medical education, and research).

2. Establishment of standards and priorities of assignment and utilization of skilled personnel in the various essential activities to ensure a balanced emergency health service.

3. Inventory of the essential health manpower (including a catalogue of skills) available at the local level to perform these various activities.

4. Administrative procedures necessary to assign or deploy essential health manpower (Specified in Section I of attached list) in accordance with the needs and standards that are established.

5. Administrative procedures necessary to ensure the availability of supporting manpower and services that will permit the most efficient use of health personnel. (Refer to Section 1)

ESSENTIAL ACTIVITIES

Let us consider some of these requirements in a little more detail. In the *identification* of the *essential activities* which require skilled health manpower, we are, of course, concerned immediately post-attack with three distinct problem areas:

First, there is the problem of millions of casualties, occurring almost simultaneously under remarkably chaotic conditions. Facilities and supplies are destroyed, supporting services are reduced or non-existent, and the rescue and medical care operations are temporarily prohibited in many areas by radiation fallout.

Second, normal public health protective measures are destroyed or become ineffectual. There is widespread contamination of food and water; and

Third, there is a sharp increase in the incidence of illness and disease among the surviving non-casualty population.

During the immediate post-attack period, essential activities will consist of the surviving population taking cover, meeting its own immediate health needs through self-care or neighbor-care, and sustaining life until local radiation levels have subsided.

As local conditions permit, organized health and medical efforts will be directed, at first, to the care of the casualty and non-casualty population and the reinstitution of public health control measures. Later, community health services will be instituted in conjunction with welfare services for displaced persons.

As soon as conditions permit, resumption of medical education and reorganization of the medical research program must be accomplished. However, in areas of devastation, it may be many months before such action can be instituted.

STANDARDS OF UTILIZATION

Standards and *Priorities* for the assignment and utilization of skilled personnel in the various essential activities must be established if we are to ensure a balanced emergency health service. For example, the casualty care problem immediately post-attack will be so tremendous that we could devote our entire resources to it, and completely neglect the non-casualty population. But, rehabilitation of the country depends ultimately upon the resumption of industrial production and this in turn is directly related to the sustained good health of the non-casualty population.

Thus, the standards and priorities that will guide the management of all health manpower depend upon the *immediate goals* of restoring the casualty population to good health, re-establishing public health controls, and instituting measures to ensure the continued good health of non-casualties; and, the *secondary goals* of re-establishing professional education and the research systems necessary to sustain the medical and health program. Both of these goals must be achieved before the nation can return to its pre-attack status.

The immediate goals can be attained by such pre-attack measures as:

1. Developing the capability of the civilian population to meet its own health needs through self- and neighbor-help.

2. Stockpiling supplies, equipment, and facilities in the areas where they will be immediately available for use and yet protected as well as possible from the effects of attack and deterioration.

3. Mobilizing, organizing, and training all types of health personnel.

4. Operational planning to institute health and medical programs based upon a realistic assessment of the probable post-attack situation, the available resources and the local capability for their utilization.

Secondary goals can be realized by preplanning alternate sites for medical schools, preservation of teaching materials, and the development of emergency educational criteria and programs. Existing medical school and research personnel should be maintained as intact as possible while concentrating upon immediate post-attack problems so they may revert to their former activities with a minimum of difficulty when conditions permit.

INVENTORY

Inventory of local health manpower supply, including distribution and catalogue of skills available to perform essential activities is a basic requirement of any manpower program. We must have detailed knowledge of our health manpower resource if we are effectively (1) to plan for the stockpiling of supplies, equipment, and facilities; (2) to provide, organizationally and operationally, for health services at the local level; and (3) to utilize bomb damage assessment information in the immediate post-attack period.

The development and maintenance of a local inventory is a time-consuming and tedious job. However, without a pre-attack inventory, it is virtually impossible for any community to organize fully its health manpower resources and ensure the best planning, training, and utilization of these personnel post-attack. The resources triad: personnel, material, and facilities must be considered as a whole. Physicians and other health personnel must have specialized health supplies, equipment, and facilities before they become *health* manpower in terms of effective utilization of their skills.

The inventory and catalogue of health skills identify the individuals that must be included in the pre-attack planning and often uncover a potential resource (i.e., inactive nurses) several times the size one might otherwise believe is available locally.

At present, detailed data on the health manpower resources of the United States are inadequate *at all levels* — local, State, regional, or national. The minimum inventory required is a catalogue of current information on the essential health manpower residing in each community. This list should be maintained in detail at the local level and, wherever possible, be totaled numerically at the State, regional, and national levels.

We should not be misled into believing that this inventory represents a real health manpower resource. It indicates only a potential resource until each inventoried individual receives a mobilization assignment, willingly assumes his role in the local emergency health organization, and is trained and rehearsed in the actions he will take and the functions he will perform in the event of a disaster.

Furthermore, in spite of a pre-attack inventory, we will still require a post-attack registration of essential health personnel in order to measure the surviving manpower resource and reorganize community health services.

ADMINISTRATION

Let us consider now the *administrative measures* necessary to *assign* and *deploy* health manpower in accordance with the needs and standards that we have discussed. Here we have a great deal to learn. The problems are complex and our program will have to be comprehensive. But, whatever the final plan any be, certain steps will be vital to it. They would include:

First, the effective administrative management of health manpower requires an organizational structure patterned to channel from the local community to the State, regional, and national levels. As we have seen, there will be the need for communities and States to have the capability of operating programs independently for some time post-attack. In the final analysis, however, survival depends upon re-establishing, as early as possible, continuity of government, communications, and the institution of national control of resources in order to ensure their most provident utilization.

Therefore, the administrative measures that are developed for the emergency management of health manpower must possess sufficient flexibility to permit independent operation at the local level and still lend themselves to integration at any higher echelon.

Next, these measures must provide the mechanism for each level to utilize fully the health manpower resources within its jurisdiction and, where necessary, to relocate personnel within the area for more advantageous utilization. For example, if a given State were isolated by attack, determinations would have to be made as to what areas were in greatest need of health personnel and from what areas these reinforcements should come. This would require an evaluation of health needs in terms of the total supply of health resources available within the State.

Then, the evaluation would have to be converted to specific skills and matched with specific persons to be moved. The entire process is one which must be performed by qualified health personnel. Once the decision is made as to who shall be moved, and where, the State employment service must enter the picture and provide the administrative mechanism to effect the actual transfer.

A similiar mechanism will operate at the national and regional levels. The Public Health Service, working in conjunction with the other Federal agencies and the medical and allied health professions, must plan for the allocation, distribution, and utilization of the non-military component of essential health skills. These skills, as defined in Appendix 1 to Annex 18 of the National Plan, include physicians, dentists, veterinarians, nurses, pharmacists, sanitary engineers, and 15 other health occupations. These personnel are directly concerned with the nation's critical health needs and must remain at all times under the direct control of health authorities at each level of government.

Other health skills (Delineated in Section II of attached list) includes optometrists, podiatrists, medical social workers, medical record librarians, occupational therapists, first aid attendants, and some 15 other allied health skills. The control of this group is the responsibility of the Department of Labor and its counterparts at each level. Allocations are made to the health authorities by this agency.

At all levels — national, regional, State, and local — these management activities relating to allocation, distribution, and utilization of essential health manpower should be assisted by properly constituted health manpower utilization committees. At the national and regional levels, these committees will be made up of representatives of the Federal health agencies and non-Federal professional health associations.

At the State and local levels, they should consist of representatives of the State and local or area health departments and the State and local professional health associations.

Only through this coordinated effort may we be assured that the most effective allocation and utilization of the essential health manpower will be realized.

In short, the administrative principles governing the assignment or deployment of the available essential health manpower are the following:

1. The essential health skills must be identified.

2. The allocation, distribution, training, and utilization of the essential health manpower must be performed by health authorities at each level of government.

3. The Employment Service must provide the administrative mechanism necessary to implement the decisions of the health authority.

4. Health Manpower Utilization Committees must be established and employed at each level.

The final basic requirement for health manpower management is the *development of administrative measures* necessary to ensure the *availability of supporting manpower and allied services* which will guarantee the most effective use of skilled health personnel.

As was indicated previously, the health authority will have a command relationship only to essential health skills (Section I of attached list). Health services will compete with other programs for the supporting manpower and services which are necessary to any successful health operation. The greater the amount of supporting services that are made available, the more efficient will be the utilization of the skilled health manpower.

At each level, the health authority must be prepared to claim the necessary supporting manpower and services and justify this claim in terms of operational needs. The Employment Service at each level must adjudicate claims and allocate resources from the available manpower pool. Both the health authority and the Employment Service operate under the authority of the Governor or Mayor and his Civil Defense Director. The necessity for preplanning and organizational training in these activities cannot be over-emphasized.

HEALTH SKILLS

Section I*

Physician (M.D.)
Physician (D.O.)
Dentist
Veterinarian
Professional nurse
Pharmacist
Sanitary Engineer
Assistant, physician's
Attendants, hospital
 Orderly
 Nurse aide
 Ward attendant
 Charge attendant
 Asylum attendant
 Attendant, physical therapy
Bacteriologist (medical, pharmaceutical and public health)
Clinical radioisotope technician
Laboratory technicians and assistants
 Medical technologist-technician
 X-ray technician
Licensed midwives and practical nurses
Nuclear health physics specialist
Physical therapist
Psychologist, clinical
Sanitary inspector
Sanitary technician
Social worker, psychiatric
Superintendent, hospital
Teacher, first-aid

Section II**

Admitting Officer (registrar)
Assistant, dentist's
Attendants, hospital
 Guard
 Attendant, occupational therapy
 Morgue Man
 Veterinary — hospital attendant
Chiropodist
Dietitian
Emergency-vehicle driver
First-aid attendant
Health officer, Field (government service)
Hospital & Surgical equipment serviceman
Laboratory technicians and assistants
 Office assistant, doctor's laboratory
 Electrocardiograph technician
 Dental technician
 Dental hygienist
 Manager, dental laboratory
 Electroencephalograph technician
Medical record librarian
Occupational therapist
Optician
Optometrist
Orthopedic technician
Prescription clerk
Reception clerk, hospital
Social worker, medical
X-ray equipment tester

*Represents health manpower designated for separate management by health authorities.

**Identified for special consideration in health planning. Personnel remain in general manpower pool except when provided to health services by the Department of Labor, or by State and local offices of the Public Employment Service.



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Potassium iodide	75.0 mg.



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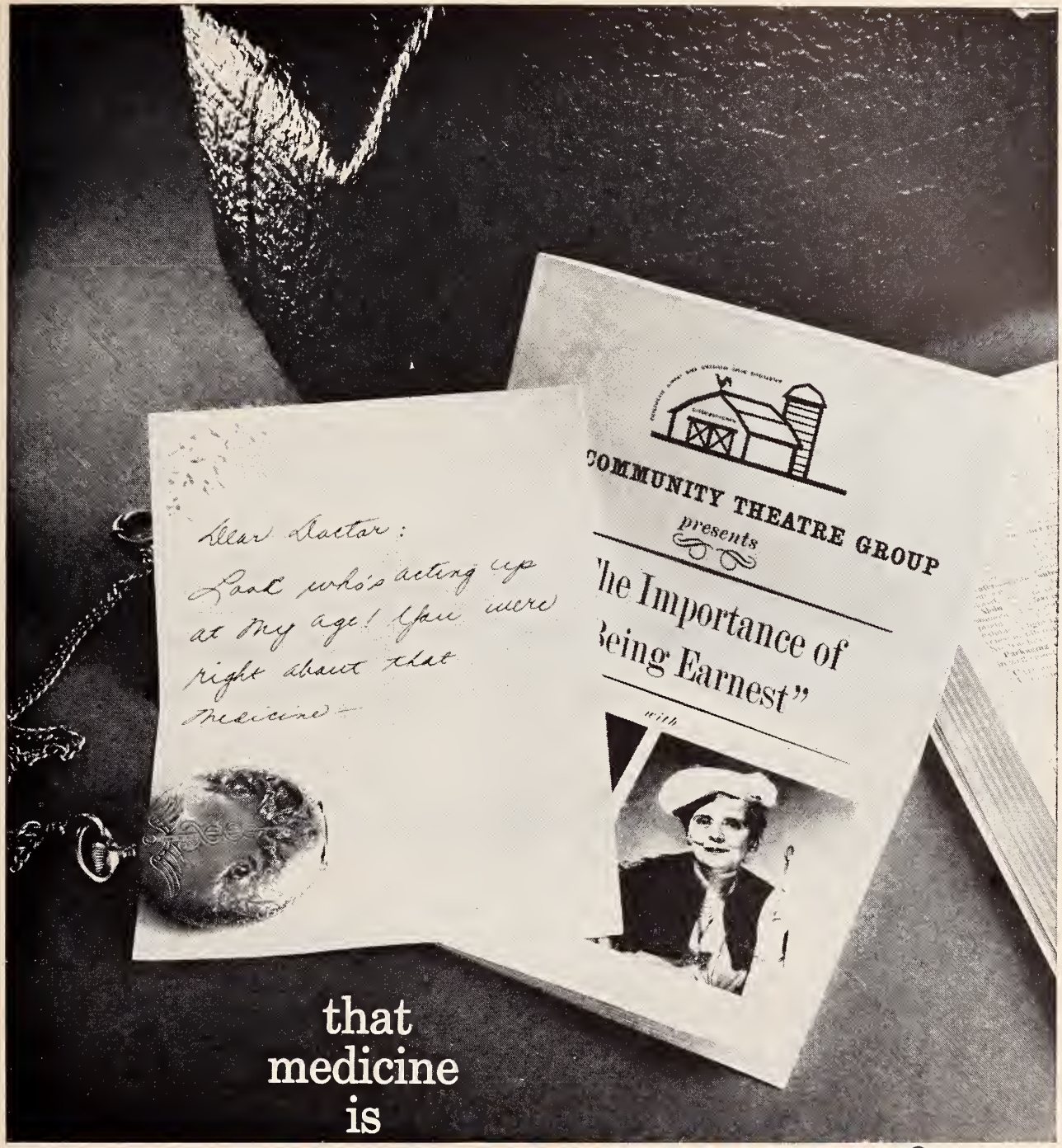
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Medical Society of the United States and Mexico

Annual Meeting—Hermosillo

December 6, 7, 8, 1961

By the time this issue reaches the subscribers, they will have received the first official circular notice and preliminary program of the forthcoming annual meeting in Hermosillo, on Dec. 6, 7 and 8.

You are requested to follow the instructions on that circular, particularly in regard to reservations for accommodations in Hermosillo; and in Guaymas, if you intend to go there for the weekend.

It is again hoped that the scientific sessions, which include four symposia, will be well attended, and that enthustiastic and active participation by the members can be counted on. A simultaneous translation electronic setup is being secured to assure a better interlingual understanding of audience and participants.

Juan E. Fonseca, M.D.

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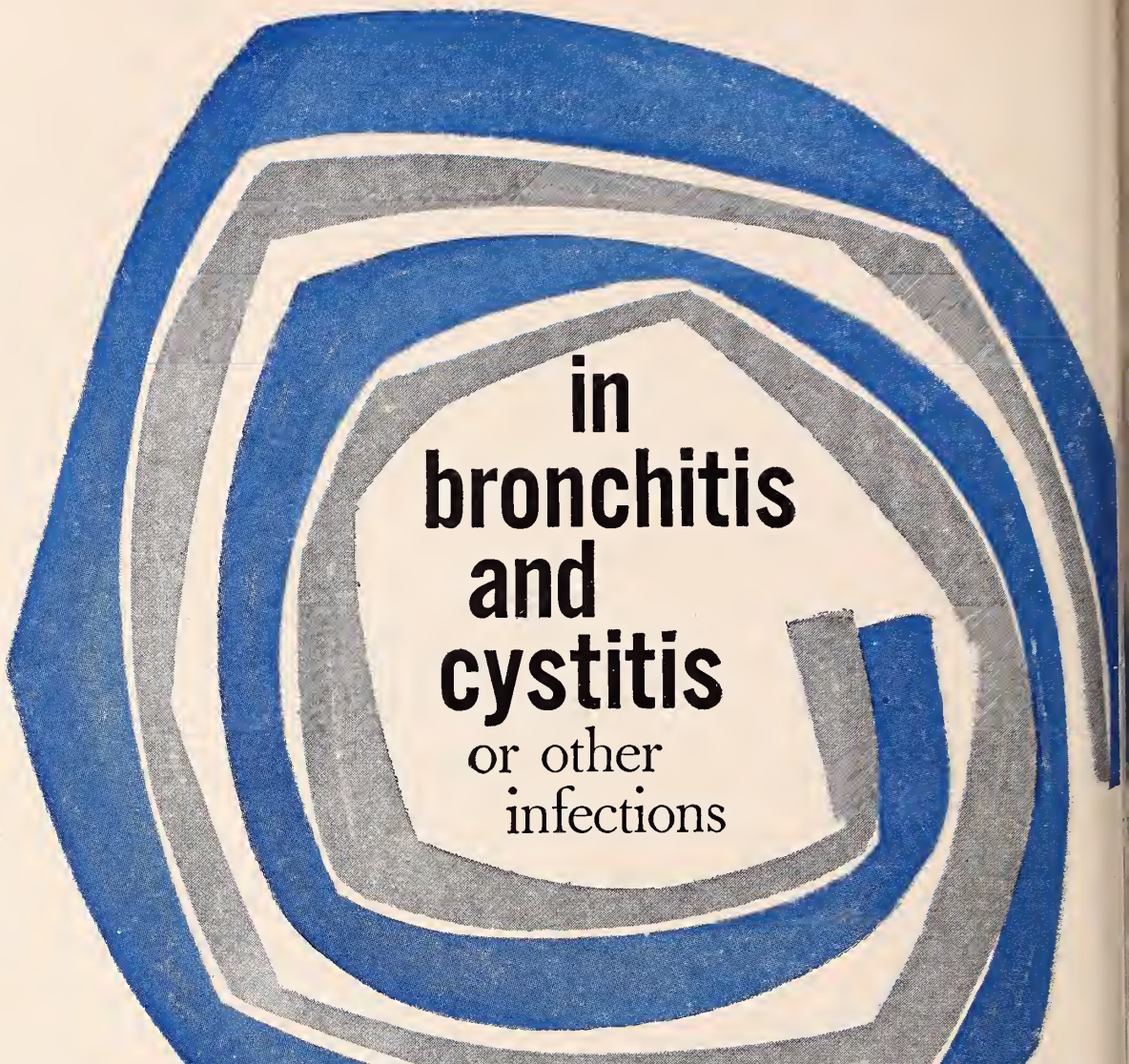
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Research in the Service of Medicine

The President's Page

The Voice

Leslie B. Smith, M.D.



Leslie B. Smith, M.D.

The image of our medical profession will continue to be difficult to improve so long as there are the few who speak and act without integrity and factual knowledge and those who improperly impost their personal prejudices.

The Inspector General of the United States Armed Forces was strickened with a serious illness during a crucial phase of World War II. It was my duty to be his physician and the magnitude of the responsibility was immediately apparent.

On the third day of his illness, the General querried me as to "who are you?" He was not satisfied in knowing that I was a Captain in the Medical Corps or that I was Chief of the Medical Service of a large station hospital and proceeded to obtain a full statement as to my training and experience. The following day the General offered a sage explanation for his tart inquiry stating, "In my position as the Inspector General, I am often called upon to make decisions relative to things of which I have little or no knowledge — in this instance I want to be certain that you are not in a similar position."

In essence he said — one should speak and act from knowledge and not merely from the authority invested by ones' position or title. Hold your opinions in escrow until all the facts have been assembled.

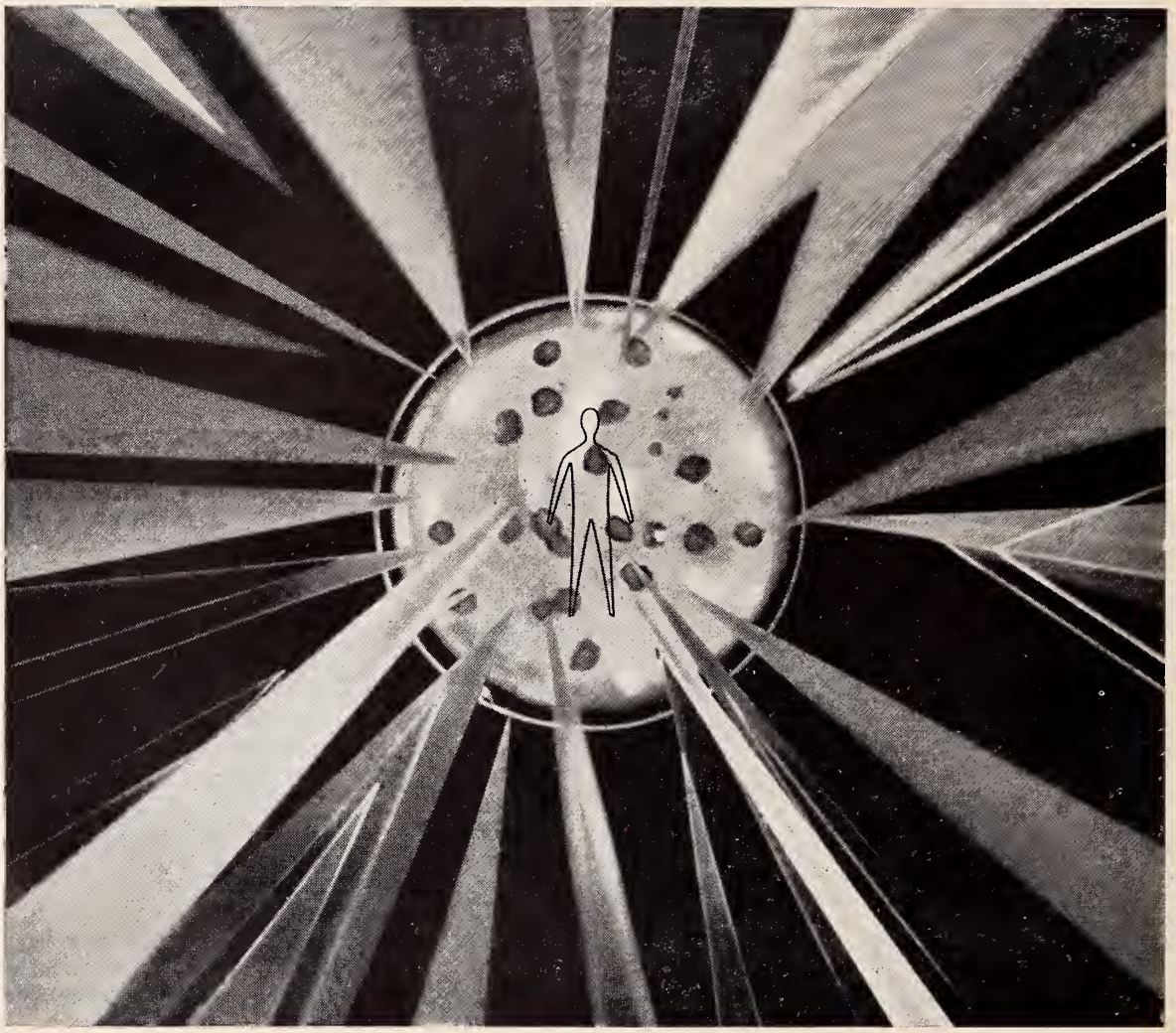
"The Voice" of those who must be heard irrespective of their incongruous remarks is one of the greatest impediments to the accomplishment of any group or organization. The motivating force behind "the voice" varies from that of immaturity to arrogant affrontry. There are those who speak only to tranquilize their ego, and those who persistently remain 'negative' to command personal attention (these are the 'againers'), and there are those who brazenly interrupt before a subject has been completely outlined for discussion, at a time when it would be absolutely impossible for "the voice" to have any knowledge relative to the proposed subject. It is disconcerting when "the voice" transfers his aroused emotions from previously discussed issues to completely unrelated matters. Much time is wasted by "the voice" who repetitiously rehashes that which has preceded.

It has been said that the Bantam Rooster compensates for his inferiority complex by being vociferous. However, small physical stature in humans is not a distinctive feature of a "voicer."

It is indeed embarrassing, as recently happened, when "the voice" of a member of the medical profession expressed his cursory conclusions, who when challenged by a newspaper reporter, admitted that he had not read the document to which he had voiced exception.

There are only a few of our Doctors who present themselves as "the voice," however it must be remembered that their unfounded statements are made to appear as authoritative by those who chose to deprecate the medical profession.

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One of the several hastily conceived and potentially dangerous suggestions for reducing drug costs is generic-name prescribing. The proponents of generic-name prescribing claim that it will lower drug costs significantly and—through supervision by the Federal Government—provide quality equivalent to that of trademarked drugs. We maintain that these claims are false. Here are some authoritative answers to the principal questions posed by generic-name prescribing.

How much money would be saved if all prescriptions were written for generic-name drugs?

"The [Rhode Island] Division of Public Assistance examined 10,000 drug prescriptions for welfare recipients for the purpose of determining the actual savings . . . of generic versus trade-name drugs. The drugs had cost $28,000. Substituting generic drugs whenever possible would have provided a saving of less than 5 per cent. Syracuse has made a similar study of drug costs with comparable results."

Rhode Island Medical Journal,
January, 1961

Are the savings worth the risk of sacrificing quality?

". . . it is unsafe [to prescribe generically] because there is not sufficient policing of our standards. . . ."

Lloyd C. Miller, Ph. D.
Director of Revision of the U.S.P.

"The naive belief that, if a product was not good, the FDA would prohibit its sale is just not realistic. . . . it is completely impossible for the FDA to check every batch of every product of every manufacturer. . . . Hence the integrity and reputation of the manufacturer assume unusual significance where drugs and health products are concerned."

Albert H. Holland, M.D.
formerly Medical Director of the
Food and Drug Administration

Smith Kline & French Laboratories, Philadelphia SK&F

After 10 weeks of therapy— a clear skin, a new personality, a new world of fun and laughter

pHisoHex, used as a daily, exclusive wash, enhances any treatment for acne. Because it contains 3 per cent hexachlorophene, it supplies *continuous* antibacterial action to help combat the infection factor. pHisoHex cleanses better than soap because it is 40 per cent more surface-active.

Used together, pHisoHex and new keratolytic pHisoAc Cream provide basic complementary topical therapy for patients with acne—to unplug follicles and to help prevent comedones, pustules and scarring.

New pHisoAc Cream dries, peels and helps degerm the skin; flesh-toned, it tends to hide acne lesions as they heal.

pHisoHex, in unbreakable squeeze bottles of 5 oz. and NEW plastic bottles of 1 pint; pHisoAc in 1½ oz. tubes.

pHisoHex and pHisoAc, trademarks reg. U.S. Pat. Off.

Winthrop LABORATORIES
New York 18, N.Y.

CLINICAL PHOTOGRAPHS



Acne vulgaris before treatment

For treatment at home, this patient washed her face daily with pHisoHex and kept pHisoAc on her face twenty-four hours a day.

Nine office treatments consisted of mechanical removal of blackheads and applications of carbon dioxide slush. No other medication was given.



After 10 weeks of therapy

For Acne—pHisoHex® and

antibacterial, nonalkaline, nonirritating, hypoallergenic detergent

pHisoAc® Cream

keratolytic

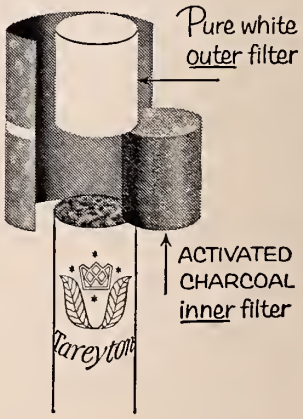
Tareyton delivers the flavor...



Here's one filter cigarette that's really different!

The difference is this: Tareyton's Dual Filter gives you a unique *inner* filter of ACTIVATED CHARCOAL, definitely proved to make the taste of a cigarette mild and smooth. It works together with a pure white *outer* filter—to balance the flavor elements in the smoke.

Tareyton delivers—and you enjoy—the best taste of the best tobaccos.



DUAL FILTER **Tareyton**

Product of The American Tobacco Company — "Tobacco is our middle name" © A. T. Co.

Increasingly...
the
trend is to

Terramycin®

OXYTETRACYCLINE WITH GLUCOSAMINE

confirmed dependability in otitis media is just one reason why



*New evidence** demonstrates the effectiveness of Terramycin in *otitis media* . . . another reason for the trend to Terramycin.

In a series of 41 cases of otitis media, Terramycin not only "was often successful where other antibiotics had failed," but also showed that "it is extremely well tolerated"; oral dosage for infants was 250 to 375 mg. daily, for children, 500 mg. to 1 Gm. In many instances, oral therapy was preceded by intramuscular injection of Terramycin.

The authors concluded that "there is good reason to consider it [Terramycin] one of the most effective agents for treatment of infection of the upper respiratory tract."

These findings confirm the continuing vitality and broad-spectrum dependability of Terramycin, as reported through more than a decade of extensive clinical use.



In brief

The dependability of Terramycin in daily practice is based on its broad range of antimicrobial effectiveness, excellent toleration, and low order of toxicity. As with other broad-spectrum antibiotics, overgrowth of nonsusceptible organisms may develop. If this occurs, discontinue the medication and institute appropriate specific therapy as indicated by susceptibility testing. Glossitis and allergic reactions are rare. Aluminum hydroxide gel may decrease antibiotic absorption and is contraindicated.

More detailed professional information available on request.

another reason why the trend is to Terramycin—*versatility of dosage form:*

TERRAMYCIN Capsules—
250 mg. and 125 mg. per capsule—for convenient initial or maintenance therapy in adults and older children

TERRAMYCIN Intramuscular Solution—
50 mg./cc. in 10 cc. vials; 100 mg. and 250 mg. in 2 cc. ampules—preconstituted, ready to use where intramuscular therapy is indicated

Terramycin®

OXYTETRACYCLINE WITH GLUCOSAMINE

SYRUP PEDIATRIC DROPS

125 mg. per tsp. and 5 mg. per drop (100 mg./cc.), respectively

deliciously fruit-flavored aqueous dosage forms—conveniently preconstituted

Science for the world's well-being® Pfizer

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New York 17, N. Y.

*Jacques, A. A., and Fuchs, V. H.: J. Louisiana M. Soc. 113:200, May, 1961.

NEW...made from 100% corn oil UNSALTED MARGARINE FOR HYPERTENSIVE PATIENTS

* contains only 10 mgs. of sodium per 100 grams
* contains 50% liquid corn oil and 50% partially hydrogenated corn oil
* has 30% linoleic acid—10 times that of butter

Because of the relationship of high-sodium intake to elevated blood pressure, new Fleischmann's Unsalted Corn Oil Margarine will prove to be a valuable addition to the dietary regimen of your hypertensive patients. It contains only 10 mgs. of sodium per 100 grams.

Fleischmann's Unsalted Margarine is made from 100% corn oil and contains both liquid corn oil and partially hydrogenated corn oil. Its linoleic acid content of 30% is three times higher than the 10% of regular margarines and ten times higher than the 3% of butter. This is the *only* unsalted margarine made from 100% corn oil.

The substitution of Fleischmann's Unsalted Corn Oil Margarine for butter or ordinary margarines in your hypertensive patients' dietary regimen has the added advantage of increasing their intake of high polyunsaturates . . . important because of their association with hypertension and atherosclerosis.

If your hypertensive patient needs sodium restriction, recommend Fleischmann's Unsalted. It has a light, delicate taste that he'll like. Tell him that it is available in his grocer's frozen food case.

Write now for physician booklet of 5 coupons—each coupon redeemable by your patient for 1 lb. of Fleischmann's Unsalted Margarine. Address Fleischmann's Unsalted Margarine, 625 Madison Avenue, N. Y. 22, N. Y. *Distribution presently limited in some areas.*

In line with the suggestion of the American Heart Association to manufacturers, we are listing the fatty acid composition of Fleischmann's Unsalted (Sweet) Margarine:

Unsaturated Fatty Acids:	
Polyunsaturates	30%
Monounsaturates	50%
Saturated Fatty Acids	20%
	100%

Fleischmann's

Fresh-Frozen in the green foil package in your grocer's frozen food case



AVERAGE DAILY INTAKE

Two Ounces or Eight Pats of Fleischmann's Corn Oil Margarine Will Supply

Corn Oil—Liquid	22.7 Gm.
Corn Oil—Partially Hydrogenated	22.7 Gm.
Iodine Value	90-95
Sodium (dietetically sodium-free)	6 Mgs.
Linoleic Acid	13.6 Gm.
Vitamin A (Adult's Need)	47%
Vitamin A (Child's Need)	62%
Vitamin D (Adult's and Child's Need)	62%

ONLY UNSALTED MARGARINE MADE FROM 100% CORN OIL

Editorials

Phoenix Hospitals Plan Together

One of the most encouraging and timely developments in our State is the formation of the Maricopa County Hospital Development Association. This organization provides a means for five voluntary non-profit hospitals in the Phoenix area to work and plan together.

Will it work? Fervently, we hope so. Too often in the past, here and elsewhere, such attempts at cooperation, though ideally conceived, have failed because individual institutions have been unwilling to subjugate selfish interests for the common good. Hospitals, like Topsy, have been allowed to "just grow." There have been races to obtain identical equipment, sometimes it seemed more for prestige value than for actual patient care. Financial campaigns have been overlapping and downright competitive. Problems have been compounded rather than simplified or solved.

This was the past. Evidence that the future may be different at least in the Phoenix area is a recent news release by Mr. John M. Clements, President of the Association. In announcing expansion plans for Good Samaritan, St. Joseph's, St. Luke's, Memorial and John C. Lincoln Hospitals, Mr. Clements said the plans

ARIZONA MEDICINE

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CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accept for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

Editorials of Arizona Medicine are the opinions of the authors and do not necessarily represent the official stand of The Arizona Medical Association. The opinions of the Board of Directors may be sought in the published proceedings of that body.

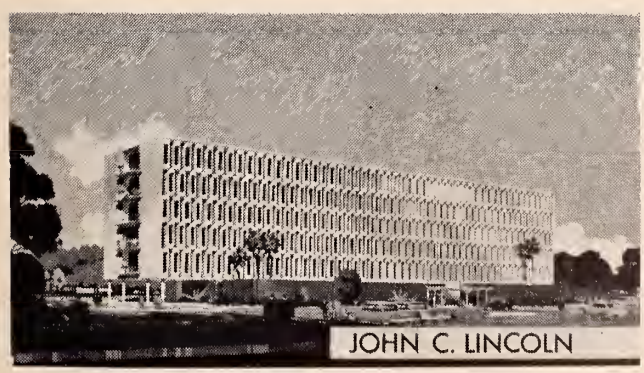
called for a "coordinated, economical expansion program — without wasteful duplication of effort — to keep medical facilities in stride with the explosive population growth of metropolitan Phoenix.

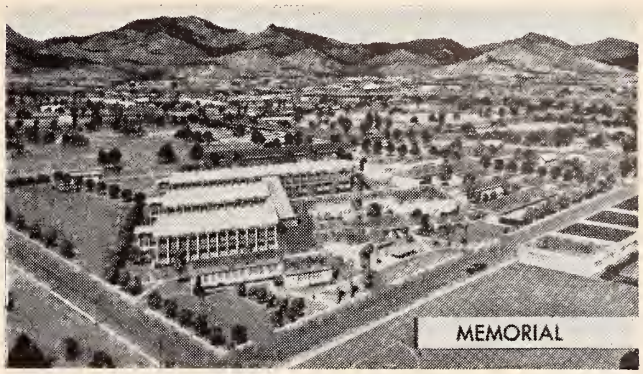


Details of the plans are not important here. They are impressive, interesting and comprehensive; and the facts concerning them are available elsewhere.



The point is — it *must* work. This is too good a thing to let fall by the wayside. We believe it *will* work. We believe hospitals will come to realize that they all cannot be all things to all patients, and that care of a patient should not be a competitive contest but a cooperative concern. We believe the good people who contribute to the support of these hospitals by their voluntary contributions will be glad to see that their money is not being wastefully used in duplication of material and effort.





Long live the Maricopa County Hospital Development Association!

R. Lee Foster, M.D.

INCORPORATION — SELF-EMPLOYED

As you are painfully aware, we do not have a plant that stamps out widgets to keep our income at a steady level whether we are vacationing on the Riviera or Marlin fishing in the Gulf. Unhappily when our leg-work ceases, so does our income. No benevolent employer is going to pension us off when senility causes our hands to shake, our eyes to dim, and spots to appear on our trousers and vests. We have none of the tax savings afforded to those in business. Admittedly we are not in business, we are professional people, but after our useful years are past, we have the same common needs as retired business people without having had the same tax benefits. It doesn't make sense for the laws of the land to discriminate against professional people.

Recently a few of the States have enacted laws to remedy the situation by allowing self-employed professional people to incorporate or form associations taxed as corporations under U. S. laws. The purpose is to let professionals obtain pensions and other tax-free benefits available to employees. In such states the doctor is no longer the "forgotten man of fringe benefits." The physician under some new laws may incorporate, become a one-man company and get benefits as an "employee," such as old age pension, medical care, death benefits, sick-leave pay and many other items of personal expense — all tax free.

The following states now allow members of all professions to incorporate: Wisconsin, Ohio, Florida and Oklahoma (with the exception of dentists in Oklahoma). Minnesota, South Dakota, Nebraska and Arkansas permit physicians only to incorporate with the exception of Arkansas, which permits dentists also to incorporate. Texas, Illinois, Pennsylvania, Tennessee, Connecticut and Georgia let members of all professions form associations.

Federal tax regulations have been revised to apply recent favorable court rulings to such corporations or associations in states permitting such organizations.

Congress in 1958 adopted a rule that says small corporations with fewer than 11 stockholders can elect to *not* be taxed as a corporation. This means that you or I could incorporate without having to pay federal corporation tax if Arizona State law permitted such incorporation, or we could elect to be taxed as a partner or sole owner, and as an employee of this corporation, we would still qualify for a pension plan and other tax-free benefits.

There are certain requirements to be met, our own salaries must be genuine and Social Security Taxes must be paid, but the tax saving and other tax-free benefits more than overcome these requirements.

First we must get our Legislature to act! Let's full all the stops!

Paul B. Jarrett, M.D.

REFERENCE: Finance Week — U. S. News & World Report, August 28, 1961.

LETTERS TO THE EDITOR

September 19, 1961

Dear Sir:

I should like to comment briefly on the Editorial "The Brainwashed Doctor," in Arizona Medicine, August, 1961, pp. 37A and 38A, by our respected delegate to the AMA.

The author states that a hypothetical physician ("this earnest advocate of scientific method") makes most of his political and socio-economic decisions based on sources that represent only one side of the debate, to quote, "From AMA handouts, from the editorials of conservative newspapers, from middlebrow magazines, from the speeches of right wing politicians, and lamentably too often from the kind of delusionary nonsense that is found in pamphlets circulated by reactionary paranoids."

The use of some of these picturesque phrases seems to mark the author as less than objective in his own thinking.

The writer suggests more reading of ". . . published blasts from . . . the AFL-CIO, from the American Civil Liberties Union, from the Americans for Democratic Action . . . the "Saturday Review," the "Progressive," the "Reporter," and others.

In reading and studying most of these publications I have found that they hardly fulfill the qualifications of "unbiased authority" to which he alludes.

Perhaps they should be supplemented with a few documents from the U. S. Government printing office such as "Foreign Relations of the U.S., Diplomatic Papers, Conferences at Cairo and Tehran," and others; or "Staff Analysis Prepared for the Subcommittee to Investigate the Administration of the Internal Security Act and other Internal Security Laws," including such pamphlets as "Permit Communist-Conspirators to be Teachers," or "Reports by J. Edgar Hoover on Communist Infiltration and Agitation Tactics;" or House Committee on Un-American Activities publications, or the "Congressional Record."

He states that the physician "knows that he can observe only through vision distorted by his own prior convictions; and he knows that he must distrust by self-interest." I prefer to

think that prior convictions based on certain eternal truths may clarify rather than distort, and I would rather trust my own automatic responses than those of some self proclaimed socio-economic "authority."

I agree with the author of the editorial when he pleas for "tolerance, for wide reading, (and) for the open mind." However, his comments quoted above and his use of such terms are symptoms that he himself is suffering from a clinical case of "brainwashing" which he has diagnosed in some of his colleagues.

Sincerely yours,
Robert F. Lorenzen, M.D.

———

August 7, 1961

Editor
Arizona Medical Association

Dear Doctor:

Occasionally National Foundation chapters are billed by physicians for personal professional services in the care of patients with acute or residual paralytic poliomyelitis. Although this is not a widespread practice, it is at times a source of embarrassment in that current chapter patient aid policies do not authorize payment of professional fees.

These policies, which become effective in 1959, were a result of considerable study and discussion. Prior to that time, it had been permissible for National Foundation chapters to reimburse physicians for their services, and approximately one-third of our 3100 chapters had been doing so in some degree.

Our decision to eliminate such payments was influenced by several factors. We realized the overriding necessity of having uniform national policies, since it is quite common for physicians to treat polio patients from several chapter areas. We were also aware of the fact that physicians in some communities had been objecting to the practice of the payment or fees because of the problems of third party involvement and fee schedules which had not been worked out to everyone's satisfaction.

Physicians' criticisms were generally characterized by a resolution introduced into the American Medical Association House of Delegates in June 1959 by the Tennessee State Medical Society. This resolution, which was subsequently modified and passed by the House of Delegates in June 1960, in effect expressed disapproval of our past practice of permitting payments of physicians' fees within the judgment of the Chapter Executive Committee.

Our studies of the problem, which began in 1958, had led to the conclusion that we could not develop a comprehensive and fair fee policy devoid of exercised controls by a substantial number of lay administrators of individual chapters. Moreover, we questioned the wisdom of encouraging the expenditure of voluntary contributions from a dedicated segment of our national population to cover the costs of physicians' services if the patient is unable to pay.

Current patient aid policies are based on the concept that the high cost of catastrophic illness derives from the numerous services and lengthy hospitalizations necessary for adequate care of chronic disabling diseases rather than from medical fees. We believe that the economic burden of catastrophic illness should preferably be alleviated by giving assistance for the burdensome ancillary costs of essential long-term or intensive care. Moreover, we believe that National Foundation assistance to families afflicted with such chronic diseases should be available to all who might suffer severe economic hardship from such an event. Thus our current policy permits assistance to families of private as well as non-private patients without involvement in the traditional patient-physician relationship, and without concern in the matter of the physician's and surgeon's fee.

I write this letter to you in the hope that it might aid in the interpretation of our concept to the medical profession, and perhaps minimize misunderstandings. I should like to add that our staff would be happy to continue discussions of this complex problem and, if modifications of chapter patient aid policies are desirable, such would be given serious consideration.

Sincerely yours,

William S. Clark, M.D.
Director of Medical Care
The National Foundation
Medical Scientific Research,
Professional Education and Medical Care
800 Second Avenue
New York 17, New York

August 1, 1961

Dear Editor:

I should like to inform my colleagues of what this Society is planning and what has already been accomplished. In the matter of a cultural undertaking for the benefit of a community, it is important that the leaders in the community know something of such a proposition. This Society was formed and incorporated under the laws of this State.

It is our immediate concern to establish a zoo of a size and scope to vie with the best in the world. Educational liaison will be with the departments of the biological sciences of our existing schools. Provisions are set up for fellowships in these disciplines, and a Scientific Council to administer this function. It is planned to establish the Zoo and the offices of the Society in the Papago Park area.

To this end we have, so far, accumulated some $350,000.00, obtained the services of a nationally acknowledged authority on such matters as Director, and our various committees have been ceaselessly at work on the various facets of planning and building this zoo. A good many animals are already here. We plan to open the gates in 1962. We have experienced such enthusiastic support from every side that we are quite confident in our estimate.

The Board of Directors has requested that I make you acquainted with our plans and hopes. You will, no doubt, wish to be thus informed whenever the conversation might turn to this topic. If further information is desired, I should be delighted to hear from you — as would also all the others listed above.

Cordially,

Jacob M. Sobol, M.D.
Member, Board of Directors
Arizona Zoological Society
234 South Ball Park Plaza
Scottsdale, Arizona

THE HORNET'S NEST

How long will it be before the ubiquitous "Journal Club" will be buried? It has been ailing many years and may, for all one knows, be dead. What is even more puzzling is that it is used as a sort of status symbol in many medical groups; but what a poor choice to use something so moribund to bolster one's sense of security. How many times has one not been approached with the challenge to one's intellectual integrity: "How would you like to join a journal club?" What does one say? How does one react? Do you admit that, much as you like the idea of the fellowship involved, you are plagued with the thought that such fellowship will soon be soured by the chore of the forced-feeding routine you would be letting yourself in for? Or do you use the subterfuge of the "rain-check," implying that the idea appeals to you but that, because of circumstances beyond your control you cannot at this time attend these fine group-thinking sessions? Or shall you say outright that you think the Journal Club an abomination? Most journals are better dead than read, and why take a chance on joining a club where you would, out of politeness, have to listen to belabored summaries of articles you have no interest in. Some journals are better read than dead, and why spoil the enjoyment they provide you in the quiet of your mind by having to convince other club members that they should enjoy the same intellectual items that you do — and running the risk that they may be puzzled by your enthusiasm for a particular item.

When a teacher or a director of a teaching program solemnly advises the interns and residents "Now, young men, one of the essential items in your upbringing is the Journal Club! This you *must* have." — is he suggesting this because he or the teachers in his program are believers in group-thinking, group intellectual effort? Do they really believe that a journal club can stimulate a young man to enjoy reading? Or could it be that the Journal Club is a lazy teacher's way of getting out of teaching? Is it not far more profitable to advise a young physician in training on what basic articles to read on a case in question, and then to have him present this material as a living exercise, bringing his reading to life by displaying its actual current worth?

I do not know when the Journal Club originated, but it may have been the (at the time) splendid idea of Sir William Osler while at McGill.

> "Osler started a journal club for the purchase and distribution of periodicals; ten

members of the faculty including Osler chipped in $10.00 per annum for the purchase of journals, especially those in French and German."*

I do not know how many – or rather how few – medical journals were published in those days (1874), but it is likely that one could, by reading the few good journals of that day, keep up with most of the current concepts in medicine and a Journal Club must have been an exciting experience. This would be manifestly impossible in 1961 in the face of the literally thousands of different medical journals that are overwhelming us – Journal Club or no Journal Club.

Is it fair to bury such a glorious old standby as the Journal Club just because it is dead? Why, most certainly. And what shall we put in its place? Obviously, in the flood-tide of paper that engulfs us today, the electronic analysis and the spread of such analyzed material by the method of television must be developed on a nationwide basis and as a crash program. This will become a must in the near future if we are to keep up with day-to-day thinking and the advances in our profession and our specialties. In this way we can also revive the idea of learning by fellowship with weekly closed circuit television get-togethers in order to absorb some of the latest information. But we must not forget that the great advances will probably still come from the brain of a scientist who had a lonely inspiration in the quiet of his study or his laboratory.

André J. Bruwer, M.D.

*Keys, Thomas A.: Sir William Osler and the Medical Library, Part I. Bull. Med. Library Assoc., 49: 24-39, Jan. 1961.

CA — BULLETIN OF CANCER PROGRESS

The American Cancer Society's publication, "CA," is available free of charge through the Arizona Division to all physicians of Arizona.

If you are not currently receiving "CA" and would like to be placed on the mailing list, please advise the American Cancer Society, 543 East McDowell Road, Phoenix 4, Arizona.



Recognizing that the exchange of ideas is fundamental to medical progress, Lederle continues its Symposium program with the 10th year of scheduled meetings. Through these Symposia, sponsored by medical organizations with our cooperation, over 50,000 physicians have had the opportunity to hear and question authorities on important advances in clinical medicine and surgery. You have a standing invitation to attend any of these Symposia with your wife, for whom a special program is planned.

ANOTHER YEAR OF SYMPOSIA . . .

PROVIDENCE, RHODE ISLAND
Wednesday, November 1, 1961
The Colony Motor Hotel

HARRISBURG, PENNSYLVANIA
Thursday, November 9, 1961
The Penn Harris Hotel

JACKSONVILLE, FLORIDA
Sunday, November 12, 1961
The Robert Meyer Hotel

ALLENTOWN, PENNSYLVANIA
Wednesday, November 15, 1961
The Americus Hotel

SOMERVILLE, NEW JERSEY
Thursday, November 16, 1961
The Far Hills Inn

NASHVILLE, TENNESSEE
Wednesday, November 29, 1961
Meharry Medical College

EDINBURG, TEXAS
Saturday, December 2, 1961
The Echo Motor Hotel

WACO, TEXAS
Sunday, December 10, 1961
The Holiday Inn

Plans for 1962 already include the following Symposia, with more being arranged:

MOBILE, ALABAMA
Friday, January 5, 1962
The Admiral Semmes Hotel

ST. PAUL, MINNESOTA
January 8, 1962
The Hotel Lowry

PORTLAND, OREGON
Wednesday, January 24, 1962
The Sheraton-Portland Hotel

ANCHORAGE, ALASKA
Saturday, February 24, 1962
The Westward Hotel

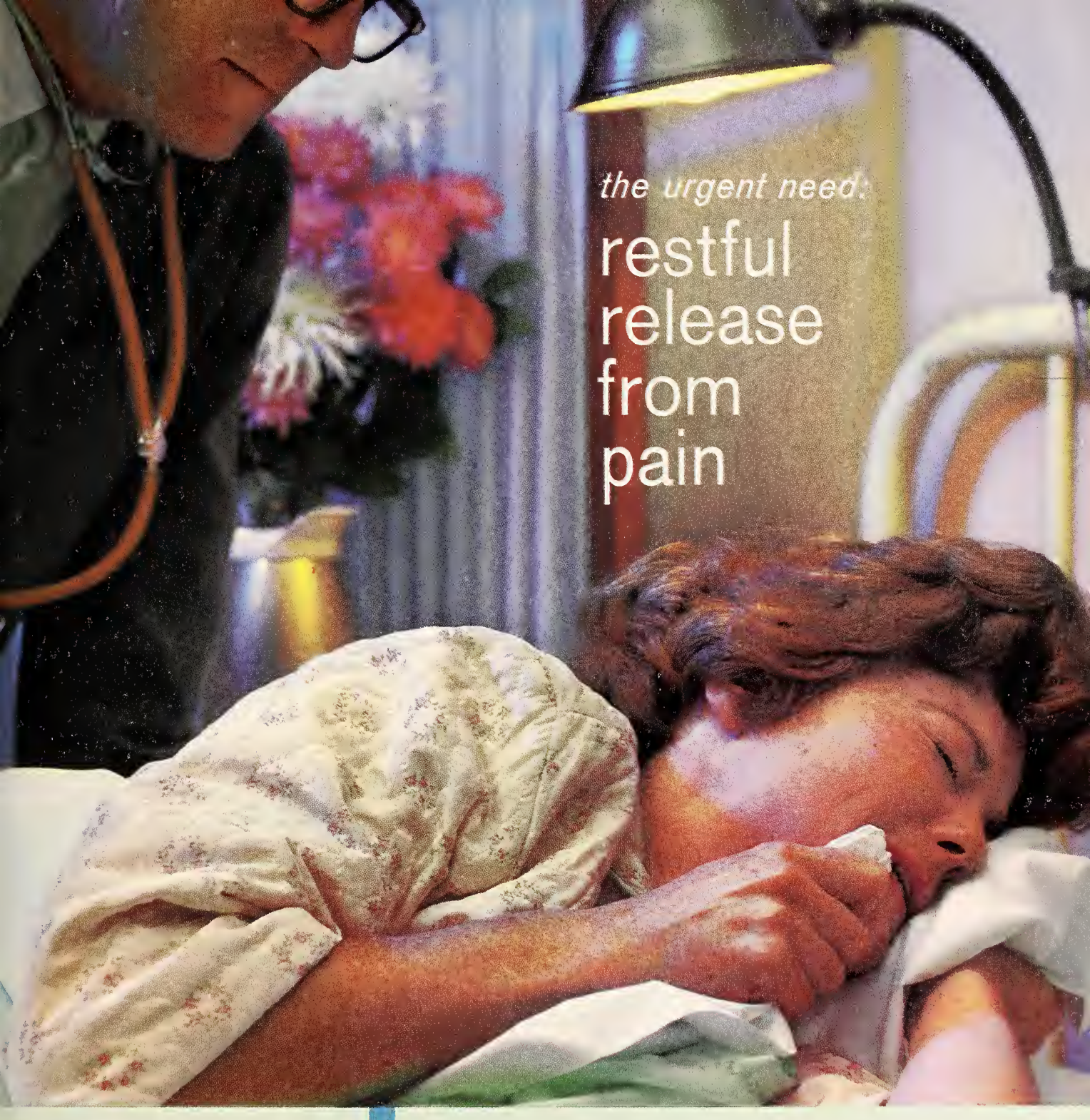
WINCHESTER, VIRGINIA
Wednesday, March 14, 1962
The Lee-Jackson Hotel

SIOUX CITY, IOWA
Thursday, March 15, 1962
The Sheraton-Martin Hotel

SPOKANE, WASHINGTON
Saturday, June 2, 1962
The Davenport Hotel

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, N. Y.

Plan now to attend the A.M.A. Clinical Session in Denver, November 27-30



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(Basic formula)

In each capsule: Phenacetin (3 gr.) 194.0 mg.; acetylsalicylic acid (2½ gr.) 162.0 mg.; hyoscyamine sulfate 0.031 mg.; and phenobarbital (¼ gr.) 16.2 mg.

AHR AHR

PHENAPHEN No. 2

PHENAPHEN with Codeine ¼ gr.

AHR AHR

PHENAPHEN No. 3

PHENAPHEN with Codeine ½ gr.

AHR

PHENAPHEN No. 4

PHENAPHEN with Codeine 1 gr.

SUPPLY: Bottles of 100 and 500 capsules.

sedative-enhanced analgesia

To each "according to his need" — maximum safe analgesia through time-and-pain-tested synergistic formulations, in four strengths for individualized prescription.

PHENAPHEN®

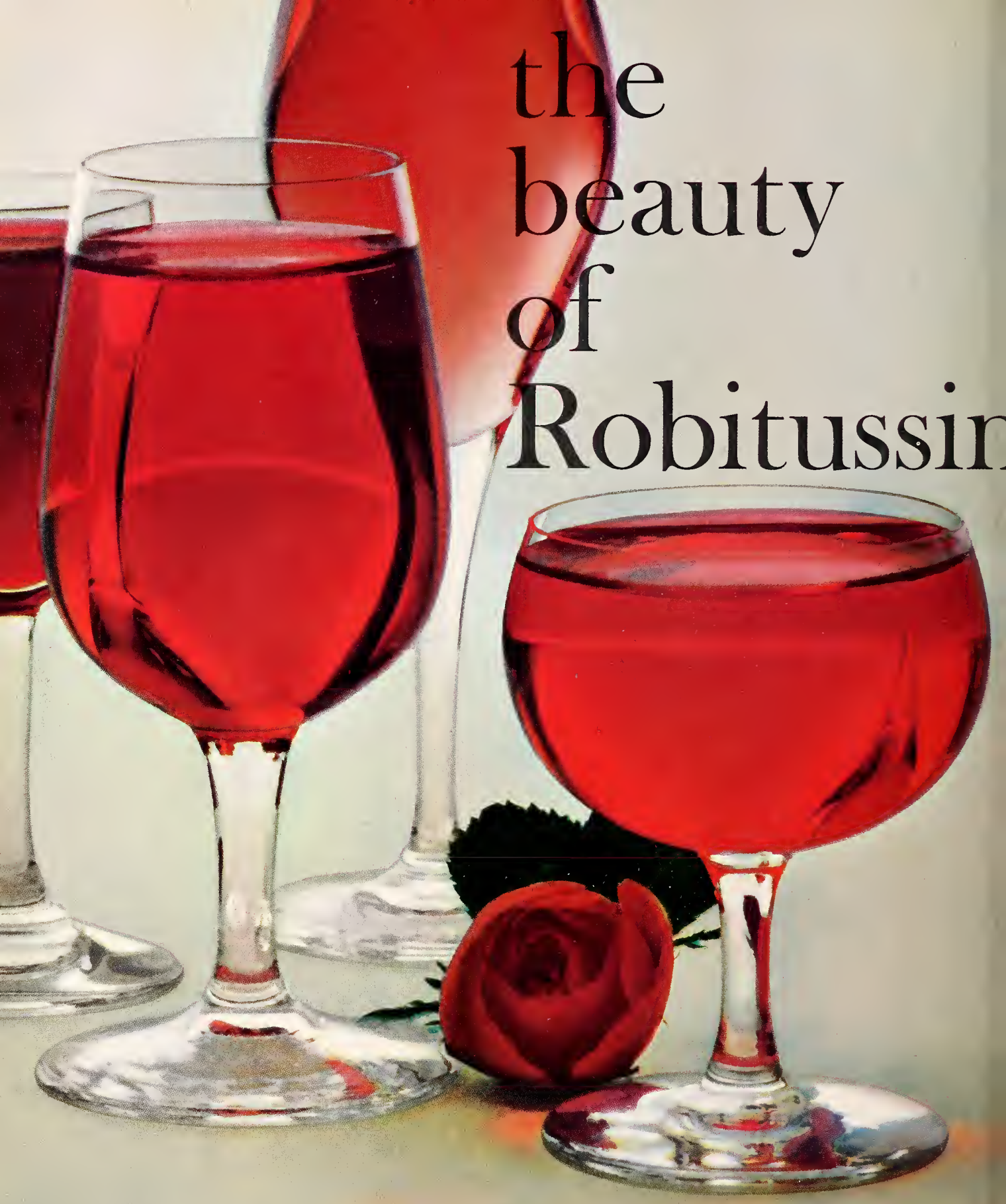
Robins

PHENAPHEN® WITH CODEINE

¼ gr., ½ gr. 1 gr.

A. H. ROBINS CO., INC., Richmond 20, Virginia

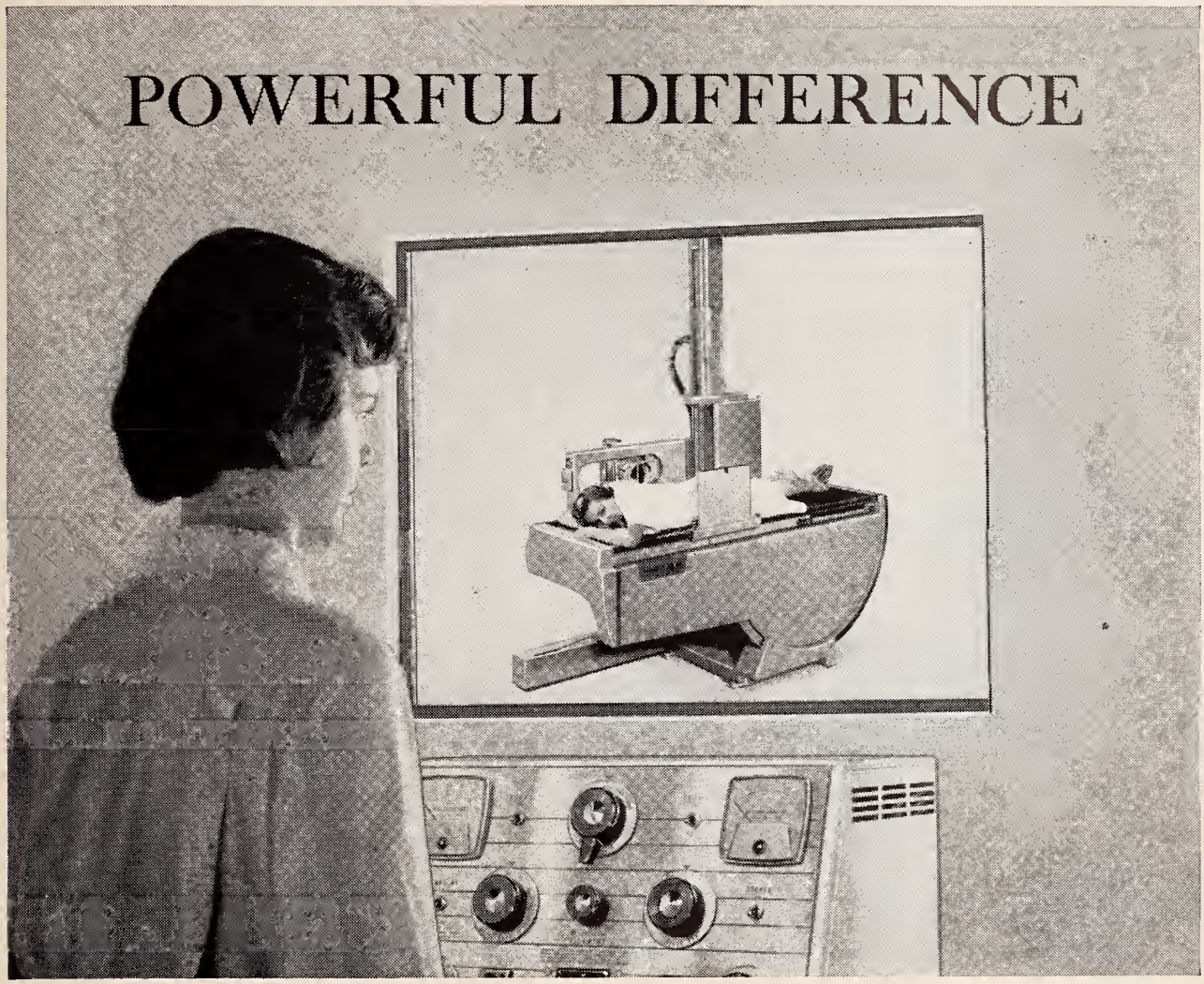
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The real beauty of Robitussin is seen in the relief it brings to cough. By increasing the tracheal flow of respiratory tract fluid, Robitussin's glyceryl guaiacolate turns useless cough into productive cough. Efficient yet gentle, Robitussin helps the cough rid itself of the very irritants that cause it. And in more than a decade of use it has proved unquestionably safe, as well as consistently acceptable, to patients of all ages. Robitussin® is glyceryl guaiacolate, 100 mg. per 5 cc. dose; Robitussin® A-C adds prophenpyridamine maleate 7.5 mg., and codeine phosphate 10.0 mg. per 5 cc. dose (exempt narcotic).

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For dependable pain relief in labor, Demerol is unsurpassed in effectiveness and safety for both mother and child. Usual dosage is from 50 to 100 mg. subcutaneously or intramuscularly when pains become regular, repeated three or four times at intervals of from one to four hours as needed.
SUBJECT TO REGULATIONS OF THE FEDERAL BUREAU OF NARCOTICS.
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Topics of Current Medical Interest

Convention Arizona State Society Of American Medical Technologists

Hotel Westward Ho
Phoenix, Arizona
August 18-20, 1961

OPENING REMARKS

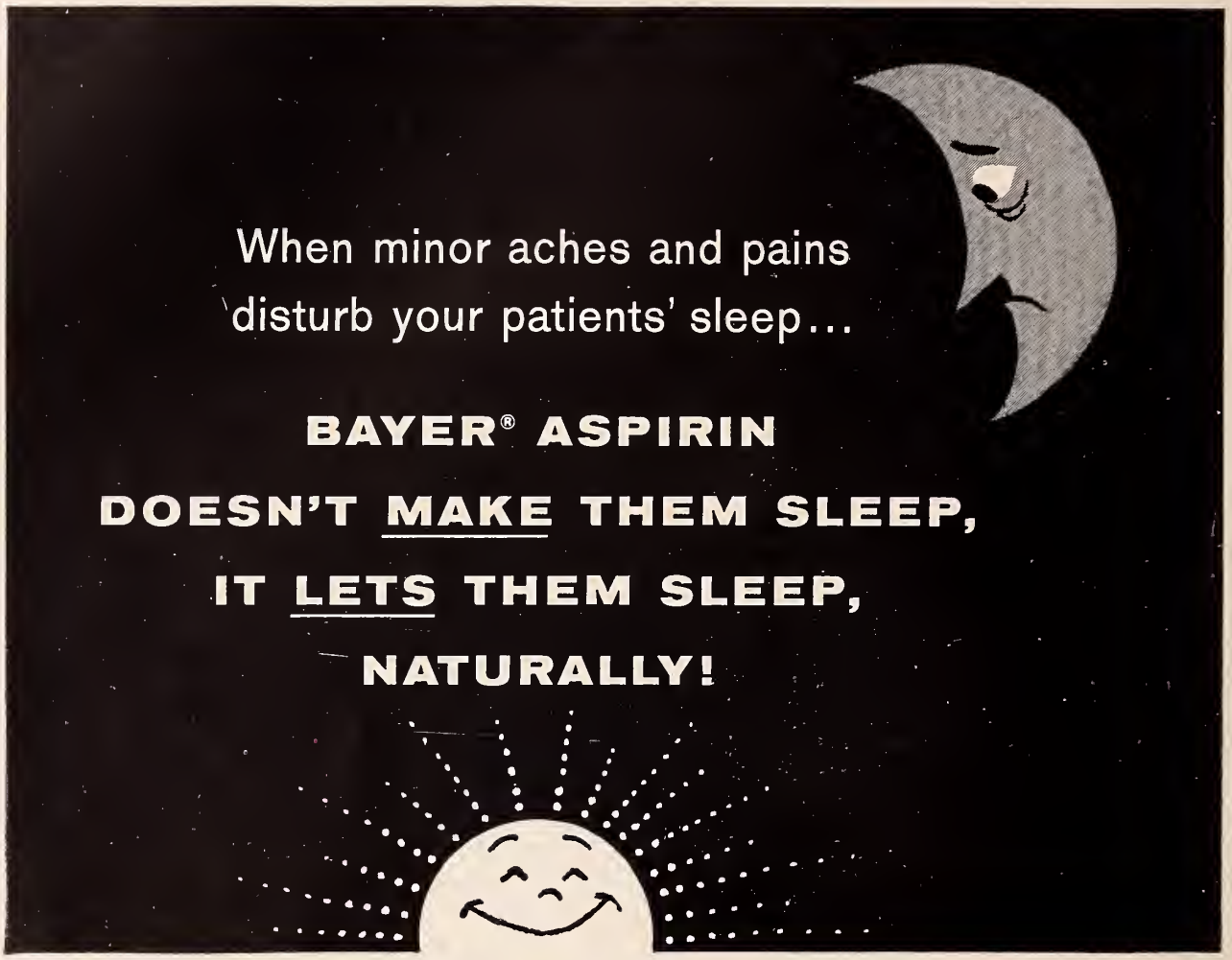
The widespread use of trained technologists as auxiliary medical workers began about the period of World War I. The succeeding forty odd years has seen an immense expansion of this field of medical activity. There are now some 26,000 registered medical technologists in the U.S.A. and between 2,100 and 2,500 new ones are certified each year, coming from a total of over 700 approved schools of medical technology.

In the early years, the chief function of medical technology was to assist in making or confirming the diagnosis of the patient's disease. With advances in drug therapy, a considerable proportion of laboratory tests are now devoted to controlling and defining therapy, e.g., the choice of the most effective antibiotic or the determination of anti-coagulant levels in the blood. As one acute observer has commented, "The therapeutic seas into which we now venture are navigable only by the most vigilant pilotage of the laboratory."

A well-known pathologist, Dr. Thomas M. Peery, has stated recently (1), "I would estimate that the number of laboratory tests performed in relation to a given number of hospital beds has increased about 50 per cent in each of the last two ten-year periods. Part of this increase is due to shorter patient stay in hospitals. Even more, however, is the increase due to the fact that the up-to-date clinical laboratory has more to offer, both as to variety of tests and in their dependability than did its counterpart ten years previously." Doctor Peery goes on to predict a continuation of this sharp rise in the demand for laboratory tests. He believes that laboratory tests will be used increasingly in a search for early signs of disease among apparently healthy persons.

Unfortunately, in our modern society, the fear of litigation is also a powerful stimulant of excessive requests for the services of the medical laboratory. Physicians are frequently pressed for the performance of investigations which they know to be useless under the circumstances. Too much control of medical practice has passed into the hands of lawyers.

As the role of the medical technologist rises in importance the need for control of professional training and standards of practice becomes more imperative. A major step in this direction was the establishment in 1949 of the Board of Schools of Medical Technology by the American Society of Clinical Pathologists for the primary purpose of maintaining high standards of education in approved schools of medical technology. As a result of the activity of this Board, entrance requirements, beginning January 1, 1962, will be raised from two to three years of



AND WITH BAYER ASPIRIN,
THERE'S NO
"SEDATIVE HANGOVER."

There are, of course, a great many instances of sleeplessness in which the patient should be directed to take a sedative to induce sleep.

But there are also many instances in which sleeplessness is caused by nothing more serious than minor aches and pains which can easily be relieved by one or two tablets of Bayer Aspirin. With physical discomforts gone, sleep comes naturally.

And when Bayer Aspirin is used as a sleeping aid, patients never suffer the "sedative hangover" which so often follows an induced sleep.

So remember, when minor aches and pains disturb your patients' sleep, Bayer Aspirin doesn't make them sleep; it lets them sleep, naturally, with no "sedative hangover."



pretechnical collegiate education.

In addition to regulation of the training of new recruits, the necessity for controlling the quality of laboratory techniques has become apparent. It is estimated that between 30,000 to 40,000 physicians operate private laboratories in their own offices. Obviously, the individual physician in these circumstances is responsible for evaluating the accuracy of the tests carried out by his own staff. Results can be checked by sending specimens to other laboratories for comparison.

Regulation of large commercial laboratories is more difficult. In some of the larger cities, unethical practices by such laboratories have been exposed. Only eight states now attempt to regulate clinical laboratories.

The recent development of contract laboratories offering flat rates per month to physicians agreeing to pay a fixed monthly sum for an unlimited number of tests brings the matter of supervision by outside agencies more urgently to the fore. These laboratories depend upon the large volume of work and more intensive use of automatic apparatus to reduce costs per test.

In 1900 there were 157 physicians per 100,000 population in the U.S.A.; by 1940, the ratio had fallen to 133 physicians per 100,000. Based on the present output of the American medical schools and present plans for expansion, the ratio is expected to decline to about 130 in 1970 and to 126 in 1975.(2)

Along with this diminished proportion of physicians to the population to be served, powerful forces have developed that greatly increase the demand for medical care. Among these are:

1) rising levels of national prosperity
2) Notable advances in medical science
3) survival of more individuals to older age groups

This great demand for medical attention can only be met by better organization of all members of the medical team. Physicians and all members of the para-medical staff have need of better integration to provide service more efficiently. The physician has primary responsibility for the quality of care rendered to the patient, but more and more the control of important aspects of the accumulation of the data upon which the care of the patient depends passes out of the doctor's hands. Medical technologists, as their training improves and becomes more specialized, must take more responsibility for the quality of their services. Professional societies of medical technologists, such as this one, have an opportunity and a duty to assist in every way possible in the prevention of unethical practices among their fellows and to cooperate fully with the medical profession in protecting the welfare of the public seeking relief from their afflictions.

Hugh H. Smith, M.D.

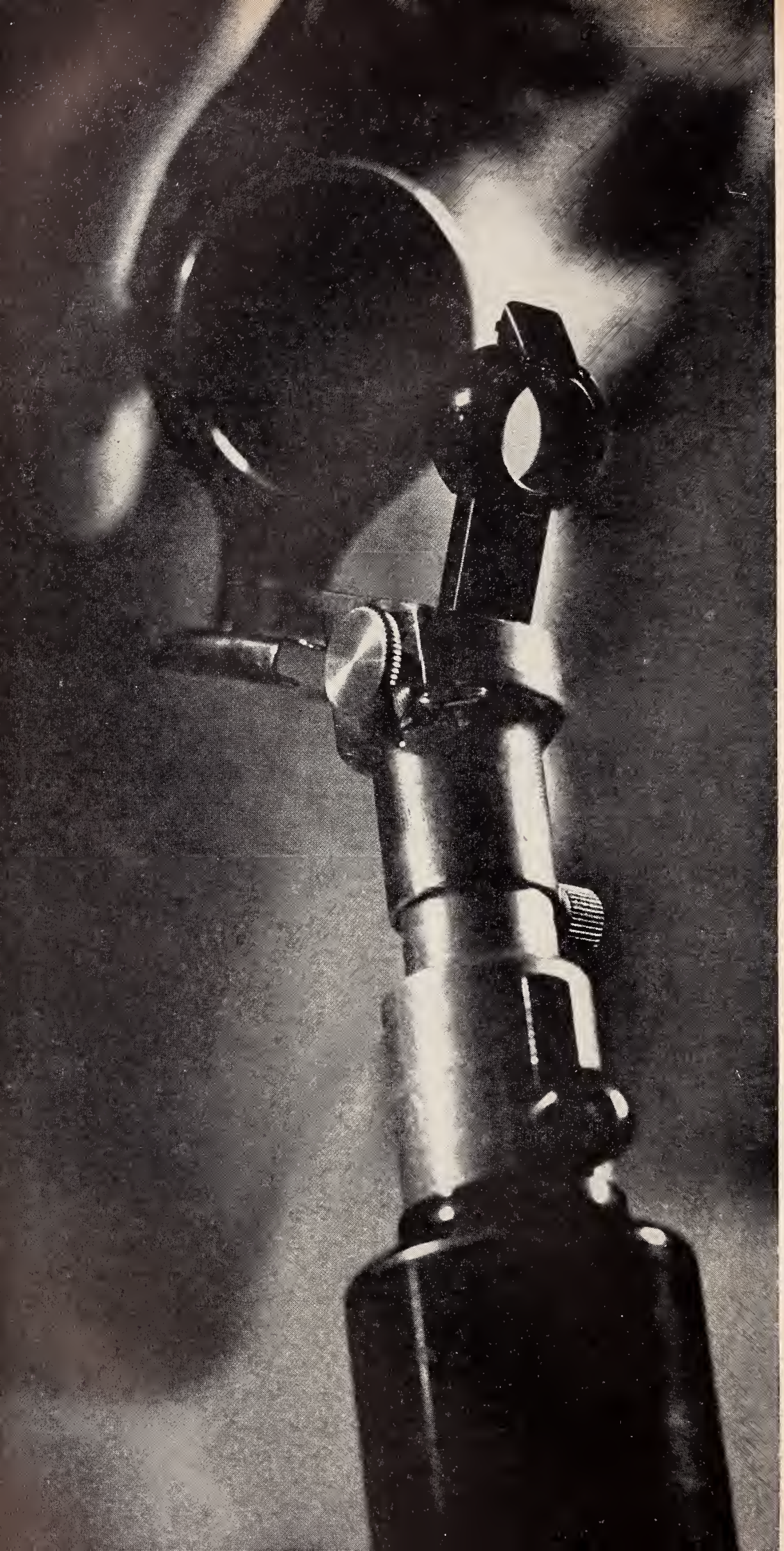
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IMIPRAMINE (TOFRANIL) POISONING

Imipramine (Tofranil) is one of the newer psychotropic drugs widely employed in the treatment of mental depressive states. This agent is apparently capable of producing a large number of toxic responses.(1-4) A recent case of nearly fatal poisoning serves to illustrate the toxic manifestations and some of the complications which may arise from accidental ingestion of large amounts of imipramine.(5) The case involved a 19-month-old boy who ate 50 tablets (25 mg each) of imipramine and sucked the sugar coating (and undoubtedly some of the drug) from an additional 50 of these tablets. Soon after, the child vomited. A physician who was summoned immediately rushed the victim to a hospital. During the ¾-hour trip to the hospital the boy was in *status epilepticus*. Upon arrival at the emergency room of the hospital, he was subjected to gastric lavage and was administered 2½ grains of sodium amytal intravenously to control the convulsions. However, shortly after receiving the barbiturate, the patient stopped breathing and it was necessary to institute artificial resuscitation which was continued for 5 hours, until spontaneous respiration returned. In addition to the central symptoms, electrocardiographic tracings (EKG) indicated a marked conduction defect within the cardiac musculature.

For lack of specific therapy in this type of poisoning, the patient was treated symptomatically. For example, he was given 200 ml of whole blood for hypotension and 10 per cent glucose and normal saline solutions, intravenously, to



in bacterial otitis media

Panalba*

promptly

to gain precious therapeutic hours

In the presence of bacterial infection, taking a culture to determine bacterial identity and sensitivity is desirable—but not always practical.

A rational clinical alternative is to launch therapy at once with Panalba, the antibiotic that provides the best odds for success.

Panalba is effective (in vitro) against 30 common pathogens, including the ubiquitous staph. Use of Panalba *from the outset* (even pending laboratory results) can gain precious hours of effective antibiotic treatment.

SUPPLIED: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

USUAL ADULT DOSAGE: 1 or 2 capsules 3 or 4 times a day.

SIDE EFFECTS: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use are infrequent and consist principally of mild nausea and abdominal cramps.

Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests or liver enlargement.

Urticaria and maculopapular dermatitis, and a few cases of leukopenia have been reported in patients treated with Albamycin. These side effects usually disappear upon discontinuance of the drug.

CAUTION: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken. Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.

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maintain fluid intake. The patient improved over the next 24 hours and gradually regained consciousness. However, he continued to be lethargic and ataxic and tended to have periods of irritability accompanied by involuntary athetoid movements. Within 48 hours, he was essentially asymptomatic and his EKG gradually returned to normal. After 7 days of hospitalization, the patient was discharged; no subsequent untoward effects were observed.

The case cited above calls attention to the serious nature of the toxic symptoms produced by imipramine poisoning, namely, convulsions, hypotension, and defect in cardiac conduction. It further emphasizes the complexity of drug therapy in controlling these symptoms because of the possibility that imipramine may potentiate the pharmacological effects of other drugs.

STATISTICS OF 75 POISONING CASES IN ARIZONA REPORTED DURING JUNE 1961

AGE:

76.0% involved under 5 year age group	(57)
6.7% involved 6 to 15 year age group	(5)
9.3% involved 16 to 30 year age group	(7)
1.3% involved 31 to 45 year age group	(1)
5.4% involved over 45 year age group	(4)
1.3% were not reported	(1)

NATURE OF INCIDENT:

82.8% accidental	(62)
17.2% intentional	(13)

TIME OF DAY:

28.0% occurred between 6 a.m. and noon	(21)
36.0% occurred between noon and 6 p.m.	(27)
12.0% occurred between 6 p.m. and midnight	(9)
5.4% occurred between midnight and 6 a.m.	(4)
18.6% were not reported	(14)

OUTCOME:

100.0% recovery	(75)
0.0% fatal	(0)

CAUSATIVE AGENTS:

	Number	Percent
Internal Medicines		
Aspirin	20	26.6
Other Analgesics	2	2.7
Barbiturates	3	4.0
Antihistamines	2	2.7
Laxatives	1	1.3
Cough Medicine	0	0.0
Tranquilizers	6	8.0
Others	13	17.2
Subtotal	47	62.5
External Medicines		
Liniment	0	0.0
Antiseptics	0	0.0
Others	1	1.3
Subtotal	1	1.3
Household Preparations		
Soaps, Detergents, etc.	0	0.0
Disinfectants	0	0.0
Bleach	2	2.7
Lye, corrosives, drain cleaners	2	2.7
Furniture and floor polish	0	0.0
Subtotal	4	5.4
Petroleum Distillates		
Kerosene	1	1.3
Gasoline	0	0.0
Others	2	2.7
Subtotal	3	4.0
Cosmetics	2	2.7
Pesticides		
Insecticides	8	10.7
Rodenticides	1	1.3
Others	0	0.0
Subtotal	9	12.0
Paints, Varnishes, Solvents, etc.	2	2.7
Plants	3	4.0
Miscellaneous	2	2.7
Unspecified	2	2.7
TOTAL	75	100.0

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4. P. V. Buday, Psychotherapeutic Antidepressants, J. Amer. Pharm. Assoc., NS1:440, 1961.
5. G. A. Arneson, A Near Fatal Case of Imipramine Overdosage, Amer. J. Psychiat., 117:934, 1961.

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The University of Arizona, Tucson
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Pharmacologist
The University of Arizona, Tucson

PALO VERDE HOSPITAL

Following in the footsteps of the new tranquilizing drugs is the new "open" hospital for the treatment of psychiatric patients. Such a treatment center, the Palo Verde Hospital, was recently completed in Tucson, Arizona. The building, designed by Arthur T. Brown, A.I.A., is planned to care for 30 patients. There are 12

IS IT "VALLEY FEVER" DOCTOR?

FOR INTRADERMAL DIAGNOSES TRY

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PREPARED with nine **9** locally collected and isolated strains of COCCIDIOIDES IMMITIS.

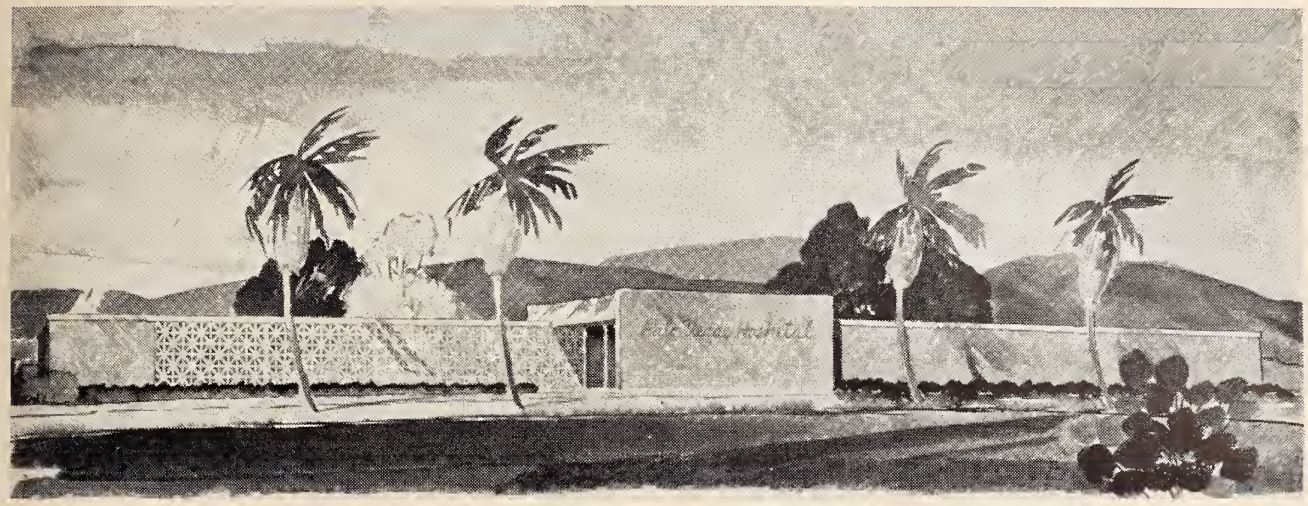
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suites, each with double beds and adjoining baths, and two closed rooms, or wards, with an isolation cubical behind these special areas. The nurses' island is in the center of this section but faces into the hallway.

The treatment wing of the building is directly off the ambulance portal and includes a small room for receiving and treatment, a small laboratory, utility and supply rooms.

The patients' bedrooms open into small enclosed patio gardens with sliding glass doors. Each room is furnished with Danish modern furniture and twin beds. There are terraces for shuffleboard off the activity-day room which is equipped for reading, television and radio. A small occupational therapy room has material for teaching ceramics, weaving, painting and games. Adjoining it by a short hall is the dining room with a kitchen to one side.

The Clinic is for therapeutic conferences and includes four offices which are shown behind the concrete solar sun screen on the open corrider. A conference room and business offices are a part of this section of the building. Day patients are taken and may spend all or part of a day receiving treatment and return to their homes at night.

Total cost of the building was $440,000.

LIVING WITH GLAUCOMA

The National Medical Foundation for Eye Care has just released a small pamphlet with seven lifetime rules to be followed by individuals afflicted with glaucoma. These seven rules as laid down by the foundation are as follows: 1) Follow the schedule of medications prescribed by your physician to the letter. 2) Carry a card in your wallet or handbag explaining that you have glaucoma and your treatment schedule in case of emergency. 3) Periodic rechecks on the pressure and other diagnostic tests as suggested by your physician are essential. 4) Protect your source of supply of eye medications and always carry extra supplies with you when traveling. 5) Tell your family physician that you have glaucoma if you are planning to undergo any major surgery or a change in your medical treatment. 6) Avoid large quantities of fluid taken over a short period of time. 7) Avoid situations that cause physical exhaustion or emotional stress if possible. During periods of emotional stress, it is wise to keep in touch with your eye physician.

Glaucoma occurs more frequently among members of the family of a patient with glaucoma than in the general population, and it is wise, therefore, for people with family histories of glaucoma to have more frequent eye examinations by qualified Opthlmologists than it is for the general population.

Copies of these small pamphlets for distribution to patients can be obtained by writing the National Medical Foundation for Eye Care, 250 W. 57th Street, New York 19, New York. The price is $3.00 per 100.

A. K. Hansen, M.D



WHENEVER COUGH THERAPY
IS INDICATED

HYCOMINE®

Syrup

THE COMPLETE Rx FOR COUGH CONTROL

cough sedative | antihistamine
nasal decongestant | expectorant

■ relieves cough and associated symptoms in 15-20 minutes ■ effective for 6 hours or longer ■ promotes expectoration ■ rarely constipates ■ agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE* Syrup contains:

Hycodan®		
Dihydrocodeinone Bitartrate	5 mg.	6.5 mg.
(Warning: May be habit-forming)		
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Phenylephrine Hydrochloride		10 mg.
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Sodium Citrate		85 mg.

Average adult dose: One teaspoonful after meals and at bedtime. May be habit-forming. Federal law permits oral prescription.

Literature on request

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BOARD OF MEDICAL EXAMINERS CERTIFICATES ISSUED

The Board of Medical Examiners of the State of Arizona at a regular meeting held Saturday, July 15, 1961, issued certificates to practice medicine and surgery in this State to the following doctors of medicine:

ACKLEY, Dean Ralph (P), Sawtelle Vah-Wilshire at Sawtelle Blvds., Los Angeles, California.

ANDERSON, Walter Dumas (R), Parkview Baptist Hospital, Yuma, Arizona.

ARGOUD, George Etienne (GP), 4022 N. 79th Drive, Phoenix 33, Arizona.

BAKER, Harrison Meade (P), 4220 North 68th Place, Scottsdale, Arizona.

BANISTER, Edwin Blair (OPH-OTOL), V. A. Center, Whipple, Arizona.

BROWER, Robert Paul (GP), San Manuel Copper Hospital, P. O. Box L, San Manuel, Arizona.

BRUNSTING, SR., Louis Albert (D&SYPHIL), 100 - 2nd Street, S.W., Rochester, Minn.

COHEN, Joseph (P), Box 148, Apple Creek, Ohio.

COHN, Lee Stern (P), 5051 N. 34th Street, Phoenix, Arizona.

COLE, Roger Willard (OPH), 45 North Tucson Blvd., Tucson, Arizona.

CRYAN, Donald Arthur (GP), 1502 North 12th St., Phoenix, Arizona.

DAVIDSON, Jere Frank (GE&I), 201 Magruder, Mineral Wells, Texas

DE ONIER, Carl William Henry (GP), San Antonio State Tuberculosis Hospital, San Antonio 23, Texas.

DORNER, Arthur Frederick (S), 5320 East Palo Verde Drive, Phoenix 18, Arizona.

DOZORETZ, Herbert (I), 2209 Wilson Avenue, New York 69, New York.

DRIES, Charles Peter (Pd), 2023 W. Bethany Home Rd., Phoenix, Arizona.

FRAZIER, Donald Bingham (U), 1150 North Country Club Dr., Mesa, Arizona.

FRUMESS, Gerald Myron (D), 1635 Hudson St., Denver 20, Colorado.

GIDDINGS, Crandall Bland (PATH), Southside District Hosp., Mesa, Arizona.

GILLESPY, JR., Thurman (OR-S), 2820 Chapel Avenue, Merchantville, N. J.

GULESSERIAN, Stepan Sarkis (GP), 1200 South 5th Avenue, Phoenix, Arizona.

HALEY, III, Robert Joseph (GP), Holbrook Clinic, Holbrook, Arizona.

HARTNETT, Leo Joseph (GYN&Obs), 950 Francis Pl., Clayton (St. Louis) 5, Mo.

HEDGES, JR., Charles Calhoun (OPH), 4119 154th Ave., S.E., Bellevue, Mich.

HELLAND, Norman Jerome (U), 709 South Drake Ave., Marshfield, Wisconsin.

HOFFMAN, Paul Emil (GP), 134 North Main St., North Collins, New York.

HONKE, Edward Max (U), 601 Davidson Bldg., Sioux City, Iowa.

HULL, Jess Stevens (OPH), EENT Dept. Martin Army Hospital, Fort Benning, Georgia

HUSS, Geraldine Rider (PATH), 11 Lynwood Road, Cedar Grove, New Jersey.

IMPELLITIER, Carl Joseph (TS), Phoenix Medical Center, Phoenix, Arizona.

JENSEN, JR., Frederick William (OBG), 516 East Thomas Road, Phoenix, Arizona.

JONAS, Maynard Allen (GP), 2121 E. Amelia, Phoenix, Arizona.

KATES, Samuel Richard (GP), V. A. Hospital, Phoenix 12, Arizona.

KLINT, Hugo Alexander (Student Health Svc), University of Arizona, Tucson, Arizona.

KOMOROSKE, John Edward (GP), 4710 Indianapolis Blvd., East Chicago, Ind.

LEE, JR., John Francis (S), PHS Indian Hospital, P. O. Box 469, Gallup, New Mexico.

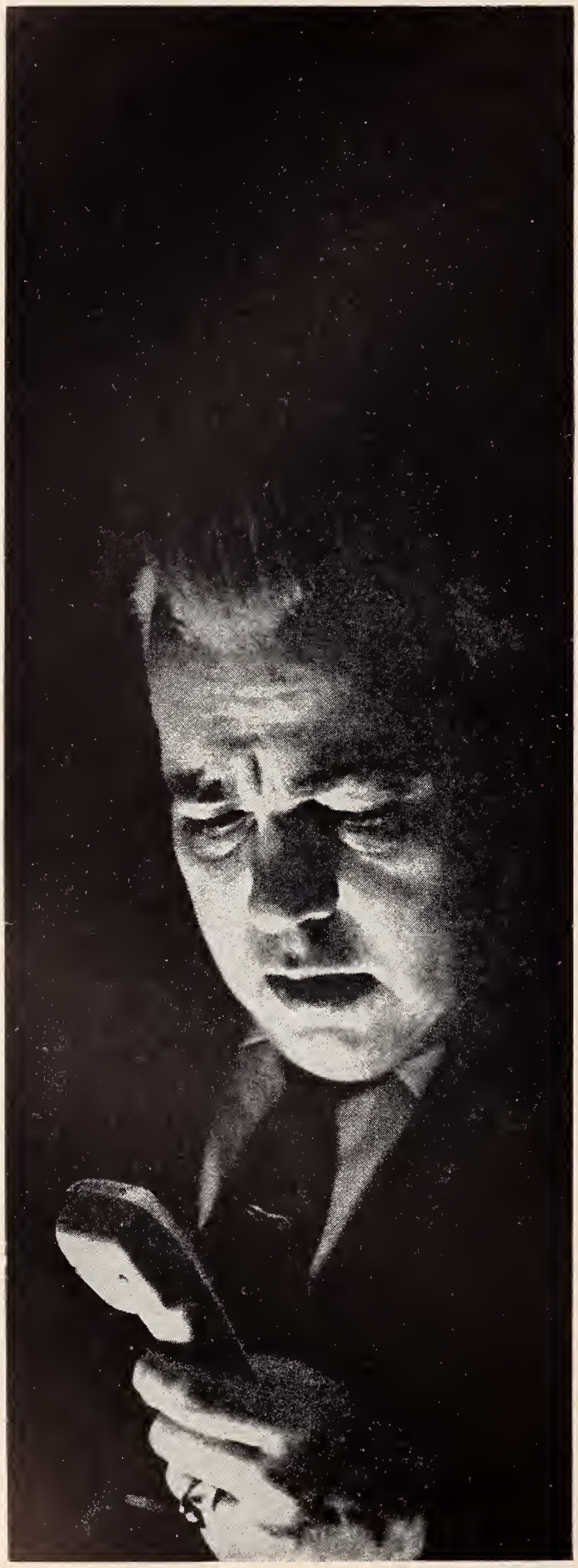
LEE, Joseph James (OBG-GP), Medical Arts Bldg., Louisville, Kentucky.

LISTON, Howard Edson (I), V. A. Hospital, Phoenix, Arizona.

McCARVER, JR., Robert Roy (R), 1160 East McDowell Road, Phoenix, Arizona.

McGUFF, Paul Edward (S), 4829 E. 38th, Indianapolis 18, Indiana.

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New Isuprel Compound Elixir is a balanced expectorant bronchodilator. It contains potassium iodide to promote expectoration and relieve dry cough. Its three bronchodilators, Isuprel, ephedrine, and theophylline, keep bronchi continuously dilated. Luminal is included to negate possible side effect from adrenergic medication and to provide very mild sedation for the patient.

New Isuprel Compound Elixir alleviates symptoms...prolongs relief in chronic bronchitis and emphysema.

Each good-tasting vanilla-flavored tablespoon (15 cc.) contains:

Isuprel® (brand of isoproterenol) HCl	2.5 mg.
Ephedrine sulfate	12 mg.
Theophylline	45 mg.
Potassium iodide	150 mg.
Luminal® (brand of phenobarbital)	6 mg.
Alcohol	19%

Adult Dose: 2 tablespoons 3 or 4 times daily.

How Supplied: Isuprel Compound Elixir is supplied in bottles of 16 fl. oz.

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RYAN, Eugene John (GP), 2801 Hart St., Charleston 4, West Virginia.

SAMPSON, JR., Roy Burton (GP), Box 188, Purcellville, Virginia.

SAMUELS, Jules George Jacques (S), Good Samaritan Hosp., Phoenix, Arizona.

SCHULTZ, Richard Otto (OPH), Phoenix Indian Hosp., 1550 E. Indian School Road, Phoenix, Arizona.

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SIMONSON, Herbert Carl (GP), 743 E. Coronado Rd., Apt. 10, Phoenix, Arizona.

SOJKA, Louis Andrew (GS), Ewing, Nebraska.

STILLWELL, JR., Tyler Chandus (P), 461 W. Catalina Drive, Phoenix, Arizona.

STRAUSS, Fred Thomas (PATH), Good Samaritan Hosp., Phoenix, Arizona.

TAYLOR, Loren Fredrick (ANES), 2435 E. Adams, Tucson, Arizona.

VAN HECKE, Leander James (PATH), 161 W. Wisconsin Ave., Milwaukee 3, Wis.

WALZER, Israel (I), 411 Lugar D'Paz Lane, Prescott, Arizona.

WILLIAMS, Raymond Eugene (ANES), 222 W. Osborn, Suite 401, Phoenix, Arizona.

THE ARIZONA MEDICAL ASSOCIATION, INC. LOCATION OPPORTUNITIES

APACHE JUNCTION — Need for a general practitioner is urgent. Town of 6,000 with no full-time medical doctor available nearby. Please contact Catherine Powell, Secretary, Palm Springs Civic Club, Route 1, Box 1619, Apache Junction, Arizona.

ASHFORK — Population 700. North centrally located — Railroad center. Contact the Women's Club, Ashfork, Arizona.

BAGDAD — Population approximately 2,000. Opportunity for GP who is willing and able to do obstetrics and general surgery. Mining community. New 12-bed hospital. Excellent income possibilities with initial guarantee. Second doctor needed due to increased volume of work. Excellent housing and schools. For further information, contact William E. Gorder, M.D., Bagdad Hospital, Bagdad, Arizona.

CAMP VERDE — Located in the heart of a large farming and ranching area on the Verde River. Approximately 100 miles north of Phoenix. Badly in need of a medical doctor. Contact Ivy N. Moser, R.N., Camp Verde, Arizona.

COOLIDGE — Excellent opportunity for a GP. Population 5,000 — in addition to servicing surrounding farm area. Nearest hospital located in Florence, approximately nine miles from Coolidge. Currently five physicians serving the area. Office facilities and most equipment, including X-ray, available on rental basis from local M.D. Contact James H. Boyd, M.D., 291 West Wilson Avenue, Coolidge, Arizona.

EL MIRAGE — Population 2,000 — and including the trading areas of Surprise, Youngtown, Peoria and Luke Air Force Base, the population is estimated at 7,000 to 8,000 persons. Opportunity for a GP due to retirement of doctor currently serving, with the possibility of school service. Climate is excellent, warm and dry. Office facilities are available in the area surrounding El Mirage from Glendale (9 miles) to the east, and Wickenburg (35 miles) to the west, there are only two doctors to serve this community. The need for a M.D. and/or surgeon is very real and one should do very well. For

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1. Clark, T. E., and Jochem, G. G.: Angiology **11**:361 (Aug.) 1960.

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information write Mr. H. Faulkner, Town Clerk, Town of El Mirage, El Mirage, Arizona.

ELOY — Need a doctor of medicine, preferably a GP. Population of 4,000 in farming community with several small towns near by. Located approximately midway between Phoenix and Tucson. Contact H. Howard Holmes, M.D., Eloy Medical Center, Eloy, Arizona.

GLOBE — Population 10,000 and including the mining and cattle areas of Miami, Superior, Ray, Hayden, Winkleman, Payson and San Carlos; population estimated at 30,000 persons. Located about two hours by car from either Tucson or Phoenix. No ENT man in the area. Ideal climate, with the best area for outdoor activities. Contact Eugene R. Rabogliatti, D.D.S., 149 South Broad Street, Globe, Arizona or A. J. Bosse, M.D., 245 South Hill Street, Globe, Arizona.

MIAMI — Opportunity for GP — Industrial hospital staffed by approximately seven doctors who care for personnel and families of those who work for the three principal mining companies. Community served by many mining and ranching interests. Contact R. V. Horan, M.D., Miami Inspiration Hospital, Miami, Arizona.

MORENCI — Mining community near New Mexico-Arizona border. Population 10,000. Has vacancy at hospital for GP. Contact C. H. Gans, M.D., Morenci Hospital, Morenci, Arizona.

PAGE — Population growing by leaps and bounds at the site of the new Glen Canyon Dam Project. Current estimates are 6,000 to 8,000 total. Only one M.D. is now located in Page and he has facility available. Located about 90 miles north of Flagstaff. Building project is estimated to be concluded in ten years. Write Ivan W. Kazan, M.D., 6th Avenue & South Navajo, Page, Arizona for full details.

PHOENIX — Excellent opportunity for Ophthalmologist or EENT man as associate. Contact E. G. Barnet, M.D., 1120 Professional Building, Phoenix, Arizona.

PHOENIX — Growing community of Maryvale has excellent opportunity for a General Practitioner. Will be given assistance in establishing practice. Please contact A. H. Erickson, M.D., 5802 West Camelback Road, Phoenix, Arizona.

PHOENIX — Maricopa County has several excellent associations (salary or partnership) available in metropolitan Phoenix and surrounding towns in General Practice, Opthalmology, ENT, and Pediatrics. Neighborhood locations are also available for GP's. Contact Maricopa County Medical Society, 2025 North Central Avenue, Phoenix, Arizona, AL 8-6901, advising medical training, military and family status, age, health, etc., and enclose small photograph.

PHOENIX — State Department of Health-Child Development Center. Opportunity for doctor of medicine (Pd) with three years experience. Male or female. Monthly salary $690 — full time. Operation includes (a) a doctor of medicine (Pd); (b) two or three psychologists on a consultant basis; (c) a psychiatric social worker; (d) a teacher specializing in child development; and (e) clerical people as required. Scope: Mentally retarded or emotional problems of preschool children. Contact Mr. Thomas Golden, Arizona Merit System, 11 North 17th Avenue, Phoenix, Arizona (AL 3-3189).

PRESCOTT — Unopposed EENT or Ophthalmology practice; 95 miles from Phoenix, with year-round climate; excellent for asthmatics; population 15,000 and growing; 10,000 to 15,000 surrounding; hunting and fishing area; two golf courses. Retiree. Collected $26,000 without surgery first full year; can be greatly increased with surgery. Board or eligible. Contact Louis A. Packard, M.D., Box 69, Prescott, Arizona.

SIERRA VISTA — General Practitioner needed in the town of Sierra Vista; ideal weather; stable economy — due to Ft. Huachuca; position as associate or will help locate doctor in his own office; the need is very acute as there is now only one active physician in this town. Please contact Irving I. Folberg, M.D., Box 746, Sierra Vista, Arizona.

SNOWFLAKE — Located in Northeastern Arizona — seeking a doctor of medicine. Population approximately 4,000. Nearest hospital located in Show Low, 19 miles from Snowflake. Increased lumber activity anticipated. Mormon L.D.S. community. Contact F. W. Erickson, D.D.S., Medical-Dental Clinic Bldg., Snowflake, Arizona.

ST. JOHNS — Seriously need a doctor of medicine, preferably a GP, in this east-central Arizona community. Population is approximately

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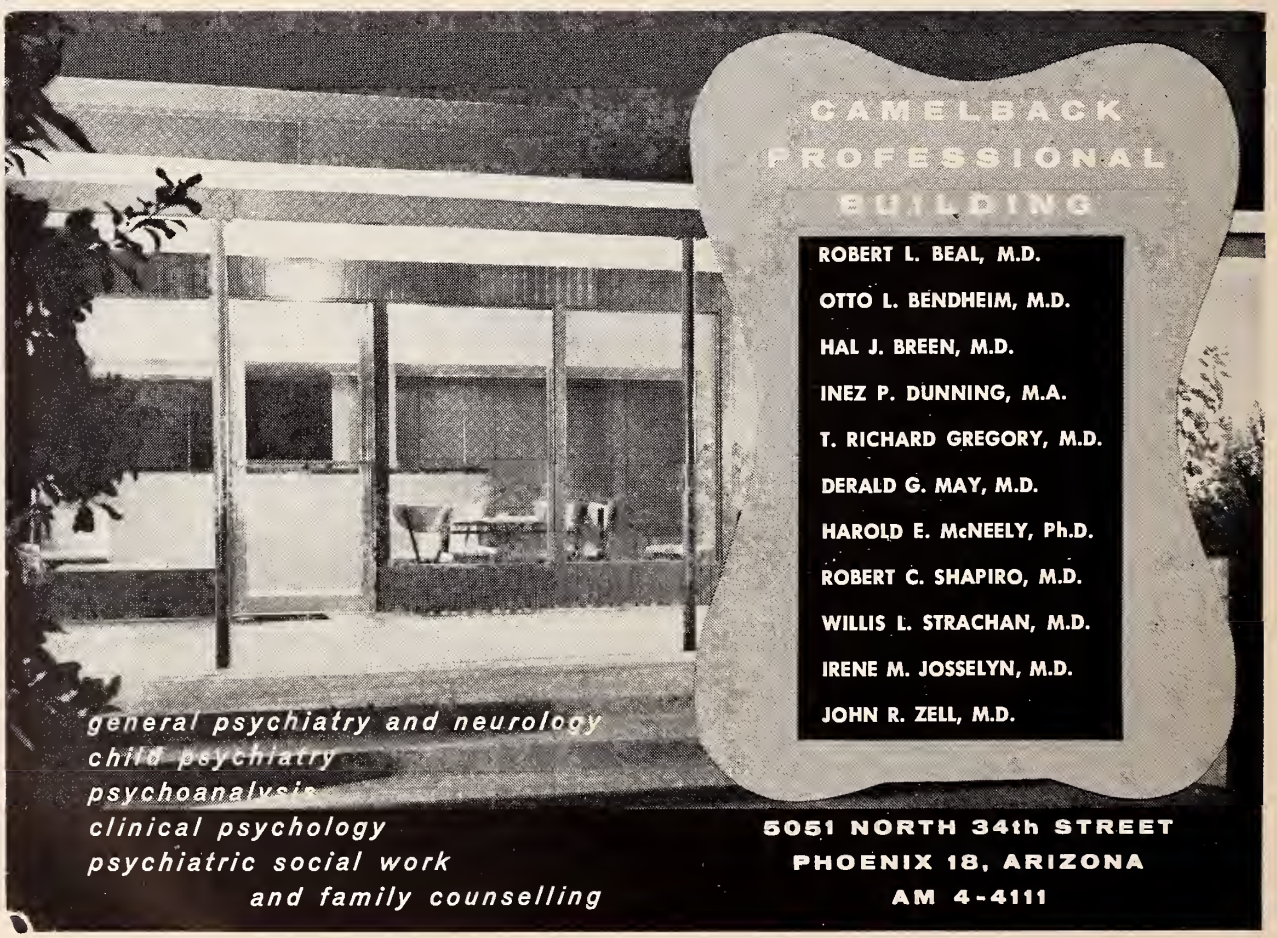
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1,500 with several other small towns in the general area. About 20 miles from New Mexico in the beautiful rim country of Arizona. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Arizona.

TOLLESON — In need of GP. Serves a trading population of from 12,000 to 15,000. Ten miles west of Phoenix, with elementary and high schools, churches of all denominations. Complete office and equipment for GP is available on reasonable term lease or purchase. Contact Mr. F. E. Babcock, President, Chamber of Commerce, 9112 West Van Buren Street, Tolleson, Arizona.

TUCSON — The VA Hospital is in urgent need of a General and Thoracic Surgeon. They prefer someone who is Board certified, but would take someone who has had special training as they have the local men in this field available for consultation service. State license is necessary (but not necessarily an Arizona license). Contact S. Netzer, M.D., Director, Professional Service, V.A. Hospital, Tucson, Arizona.

WILLCOX — Population approximately 2,000 — and including surrounding area, the population is estimated at 4,000. Immediately in need of a general practitioner and surgeon; must have state license or be eligible for same. Opening for an associate. Office available approximately three (3) blocks from the twenty-bed hospital in community. Tucson, Arizona is within a locality of 85 miles. Contact Sotero Antillon, M.D., P. O. Box 867, Willcox, Arizona.

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FOR INFORMATION ON OPPORTUNITIES IN THE FIELD OF INDUSTRIAL MEDICINE, CONTACT:

Harold J. Mills, M.D., Phelps Dodge Hospital, Ajo, Arizona.

Carl H. Gans, M.D., Phelps Dodge Hospital, Morenci, Arizona.

Ira E. Harris, M.D., Miami Inspiration Hospital, Miami, Arizona.

Elvie B. Jolley, M.D., Copper Queen Hospital, Bisbee, Arizona.

H. W. Finke, M.D., Magma Copper Company Hospital, Superior, Arizona.

John Edmonds, M.D., Kennecott Copper Corporation Hospital, Ray, Arizona.

Francis M. Findlay, M.D., San Manuel Hospital, San Manuel, Arizona.

MEDICARE

The retention of certain servicemen beyond their normal date of expiration of active duty tours is essential in order that the augmentation of the Uniformed Services, called for by the President, can be attained. Implementation poses many problems. Among them is the valid identification of the extendees' dependents who will remain eligible for certain benefits while their sponsors remain on active duty.

The extension of tours of duty may result in some dependents being without a valid Identification Card for some time. The basis of identification of dependents is, as you know, the Uniformed Services Identification and Privilege Card (DD Form 1173). Each card carries an expiration date of eligibility. This date, in the case of dependents of noncareer personnel, is the same as the expected expiration date of the sponsor's tour of active duty.

In the past, the "expiration date" on the ID Card has been the governing factor in determining that eligibility still exists. Since the involuntary extension of the tours of duty of many servicemen is effective almost immediately, the probability exists that some still-eligible dependent wives and children may apply for civilian medical care to which they are still entitled. They may not, however, have in their possession the required proof of their eligibility.

No change is contemplated in the provision of our contract which states that claims may not be processed for payment until the dependents have proven their eligibility to receive care. Service personnel are being advised that it is their responsibility to take necessary action to "up-date" the evidence of dependents eligibility.

It is most probable, however, that some dependents will be in need of authorized medical care from civilian sources prior to the time this action has been completed. In such cases, the dependent has been instructed to explain the situation to the physician and hospital authorities. They have been advised to present, if available, some tangible evidence such as allotment checks, official orders, directives, or personal letters which state the pertinent facts to the physician or hospital to help support the dependent's claim of continued eligibilty.



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This office is not empowered to broaden the "good faith" aspect of our contract. The number of dependents temporarily "unidentified" who require medical benefits will not be large.

In view of the situation at hand, I would appreciate your assistance in encouraging physicians and hospitals to exercise patience and understanding during the next several months when their services are requested by dependents of these extendees.

I must emphasize, however, that no claims may be processed for payment unless the dependent has provided a valid DD Form 1173 or a statement of eligibility as required by our contract and as outlined in ODMC Letter No. 1-60.

This information is being furnished to all contractors and to the editors of leading medical and hospital journals. We would appreciate it if you could publish a copy of this letter, or an extract of the information in the next copy of your Medical Society journal or any other news media which is circulated to your membership.

Sincerely,

W. D. Graham
Brigadier General, MC, USA
Executive Director
Office for Dependents' Medical Care
Office of the Surgeon General
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Friday, December 8, 1961
Moderator — Arthur R. Nelson, M.D.

Each presentation will be followed by a 15 minute question and answer period in which all panel members will participate.

1:00-1:30 p.m.	Registration
1:30 p.m.	Practical Management of Upper Gastrointestinal Hemorrhage George H. Mertz, M.D.
2:15 p.m.	Kickoff of a Debate: The Surgical Attitude Toward Thyroid Disease Dale H. Stannard, M.D.
3:00 p.m.	Arizona Enigma: The Solitary Pulmonary Lesion Arthur R. Nelson, M.D.
3:45-4:00 p.m.	Coffee Break
4:00 p.m.	Plastic Principles of Repair in Some Difficult Injuries Howard Lawrence, M.D.
4:45-5:15 p.m.	Panel Roundup and Questions

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INFORMATION

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Good Samaritan

Postgraduate Seminar

on

Internal Medicine

Saturday, December 9, 1961

Moderator – Richard K. MacMillan, M.D.

Each presentation will be followed by a 15 minute question and answer period.

(Breakfast)

8:00 a.m.	Cardiac Auscultation Lee Ehrlich, M.D.
9:15 a.m.	Jaundice – A Practical Approach to the Differential Diagnosis Richard K. MacMillan, M.D.
10:00 a.m.	Radioisotopes in the Diagnosis of Thyroid Disease Joseph J. Likos, M.D.
10:45 a.m.	The Internist's Attitude Toward Thyroid Disease Imre M. Sandor, M.D.
11:30 a.m.	Anticoagulants and Fibrinolytic Agents John F. Westfall, M.D.
12:15 p.m.	The Differential Diagnosis of Hypertension Meyer Markovitz, M.D.

Application for Postgraduate Seminar in Surgery and Internal Medicine at Good Samaritan Hospital, December 8 and 9, 1961.

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Arizona Chapter, American College of Surgeons
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Colorado Academy of General Practice
Colorado Springs, Colorado

November 25, 1961
University of Utah College of Medicine
Postgraduate Course, Psychiatric Problems in Obstetrics-Gynecology
Salt Lake City, Utah

November 25-26, 1961
Interim Session, American College of Chest Physicians
Denver, Colorado

November 26, 1961
Third National Conference on Medical Aspects of Sports, AMA
Denver, Colorado

November 27-30, 1961
AMA Clinical Meeting
Denver, Colorado

February 20-23, 1962
Colorado State Medical Society
Midwinter Clinical Session
Denver, Colorado

March 1-3, 1962
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Salt Lake City, Utah

March 15-17, 1962
Tenth Annual Cancer Seminar
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Ames Co., Inc. Inside Back Cover

Bristol Laboratories 298, 299
Butler's Rest Home 65A

Camelback Hospital 19A
Camelback Professional Building 62A
Case, G. M. Laboratories, Inc. 64A
Coca Cola Co. 64A
Crystal Bottled Water 31A

Doctor's Directory 65A

Endo Laboratories 56A

Franklin Hospital 68A

General Electric Co. — Xray Div. 47A
Glenbrook Laboratories 50A

Hillcrest Medical Center 65A
Hobby Horse Ranch School 68A

Lederle Laboratories.14A, 15A, 21A, 24A, 25A, 44A
Lilly, Eli & Co. Cover, 16A
Loftins Business Forms 62A
Lorillard, P. & Co. 66A

Mead Johnson & Co. Back Cover
Medical and Dental Finance Bureau 23A
Merck, Sharp & Dohme 18A

National Casualty Co. 68A
Nurses Directory 65A

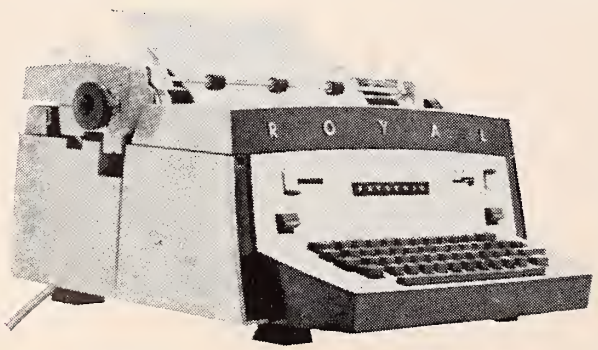
Parke, Davis & Co.....Inside Front Cover, 1A
P.B.S.W. Co. 74A
Pfizer Laboratories, Inc. 35A, 36A
Pharmacy Directory 65A
Physicians Casualty Association 64A

Robins, A. H. & Co. 45A, 46A
Roche Laboratories 11A
Rocky Mountain Pharmacal 54A
Roerig Laboratories 60A
Ryan Evans Drugs 62A

Schering Corporation 13A
Schieffelin & Co. 31A
Searle, G. D. & Co. 28A
Smith, Kline & French Labs., Inc. 32A
Squibb, E. R. & Sons Co. 4A, 5A, 30A
Standard Brands, Inc. 37A

Upjohn, The Co. 52A

Wallace Laboratories 7A, 26A
Wayland Drugs 31A
White Angel Inn 12A
Winthrop Laboratories.3A, 20A, 27A, 33A, 48A, 58A



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(1) Danowski, T. S.: Diabetes Mellitus, Baltimore, Williams & Wilkins, 1957, p. 239. (2) McCune, W. G.: M. Clin. North America 44:1479, 1960. (3) Ackerman, R. F., **et al.**: Diabetes 7:398, 1958.

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Bibliography: (1) Jacobs, L.: GP *21*:93 (Jan.) 1960. (2) Shulman, L.: J.A.M.A. *175*:118-123 (Jan 14) 1961. (3) Moore, C. V., in Wohl, M. G., and Goodhart, R. S.: Modern Nutrition in Health and Disease, ed. 2, Philadelphia, Lea & Febiger, 1960, p. 243.

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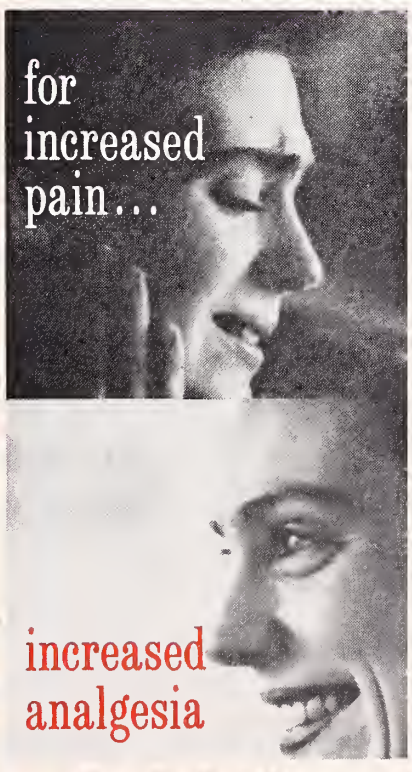
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References: (1) Malone, F. J., Jr.: *Mil. Med.* **125**:836, 1960. (2) Martin, W. J.; Nichols, D. R., & Cook, E. N.: *Proc. Staff Meet. Mayo Clin.* **34**:187, 1959. (3) Ullman, A.: *Delaware M. J.* **32**:97, 1960. (4) Petersdorf, R. G.; Hook, E. W.; Curtin, J. A., & Grossberg, S. E.: *Bull. Johns Hopkins Hosp.* **108**:48, 1961. (5) Jolliff, C. R.; Engelhard, W. E.; Ohlsen, J. R.; Heidrick, P. J., & Cain, J. A.: *Antibiotics & Chemother.* **10**: 694, 1960. (6) Lind, H. E.: *Am. J. Proctol.* **11**:392, 1960.

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December, 1961

Vol. 18, No. 12

Table of Contents

ORIGINAL ARTICLES

EXTENDED OPERATIONS FOR ALIMENTARY TRACT MALIGNANCY: INCLUDING THE ESOPHAGUS, STOMACH, AND COLON, TOGETHER WITH RECITAL OF EXPERIENCES WITH THE SECOND LOOK OPERATION 319
Owen H. Wangensteen, M.D.

THE PATHOLOGY OF RUPTURED VENTRICLE 329
Ian Stewart, M.D.

ARIZONA WORKMEN'S COMPENSATION LAW AS IT APPLIES TO THE PRACTICE OF MEDICINE AND SURGERY 332
Walter V. Edwards, M.D.

INSANITY 337
William B. McGrath, M.D.

ROENTGENOLOGY SECTION –

ACUTE CHOLECYSTITIS EMPHYSEMATOSA: A CASE REPORT 340
Frank M. Behlke, M.D.

PRESIDENT'S PAGE

GREETINGS – Leslie B. Smith, M.D. 25A

EDITORIALS

HAVE M.D., WILL TRAVEL – R. Lee Foster, M.D. 27A
EDITORS NOTES – Darwin W. Neubauer, M.D. 28A
CHEMOTHERAPY OF BREAST CANCER – Darwin W. Neubauer, M.D. 30A

IN MEMORIUM

JOSEPH BANK, M.D. 38A

TOPICS OF CURRENT MEDICAL INTEREST

BARROW NEUROLOGICAL INSTITUTE – Charles W. Elkins, M.D. 45A

REPRINTS

CANCER THERAPEUTIC AGENTS – David A. Karnofsky, M.D. 51A

FUTURE MEDICAL MEETINGS

REGIONAL MEETINGS – Winter and Spring, 1961-62 55A
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE 55A
MAN AND CIVILIZATION: CONTROL OF THE MIND 55A
INTERNATIONAL MEDICAL-LEGAL SOCIETY 55A
THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY 55A
ARIZONA HEART ASSOCIATION – FIFTH ANNUAL CARDIAC SYMPOSIUM 56A
THE DALLAS SOUTHERN CLINICAL SOCIETY 56A
TENTH ANNUAL CANCER SEMINAR – ARIZONA CANCER SOCIETY 56A

DIRECTORY

OFFICERS AND COMMITTEES 5A
SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NORTE AMERICA Y MEXICO 7A
MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 7A
WOMAN'S AUXILIARY 7A
INDEX TO ADVERTISERS 62A

Published monthly by the Arizona Medical Association, Inc. Business office at 4533 North Scottsdale Road, Suite 211, Scottsdale, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.



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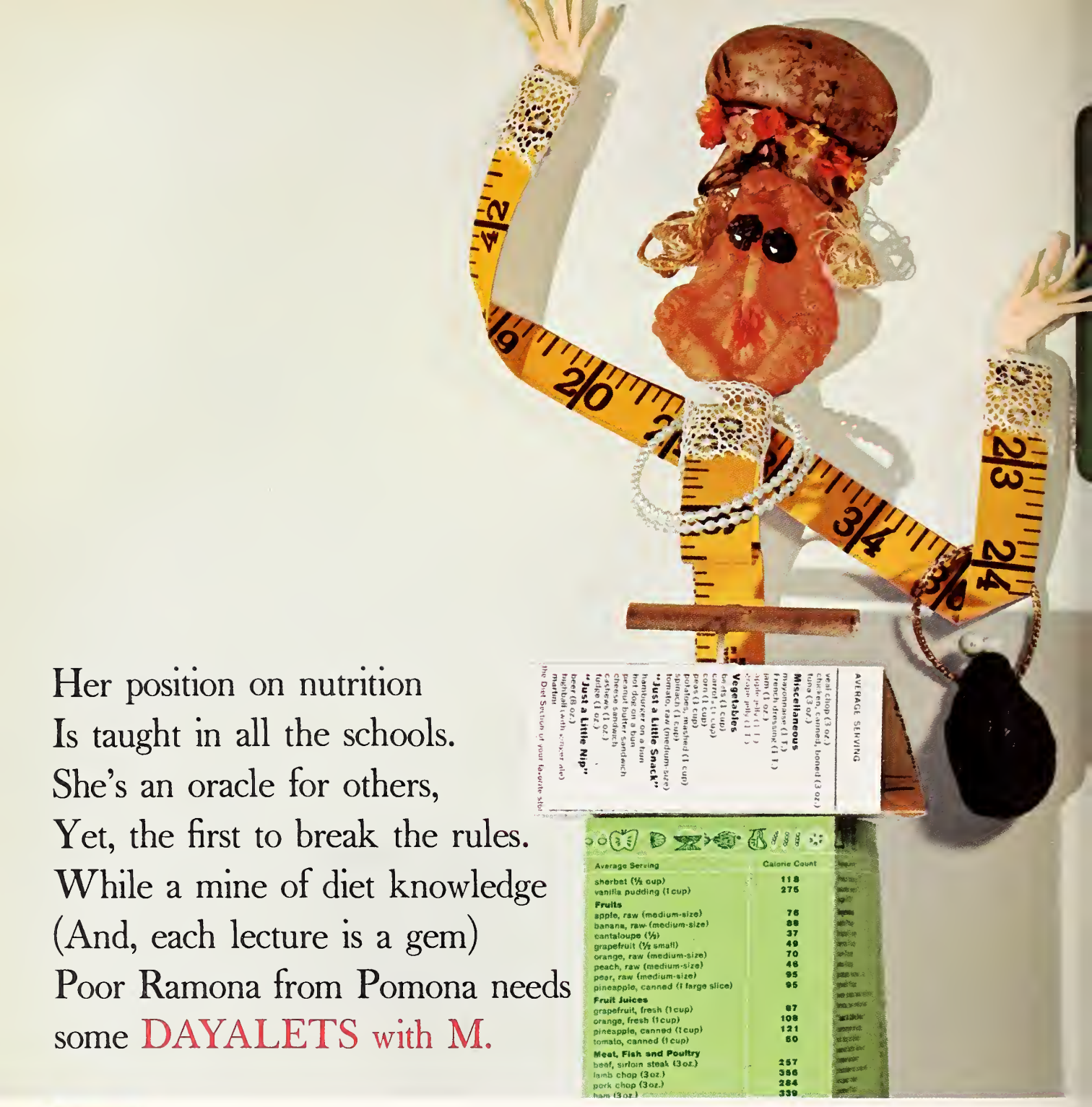
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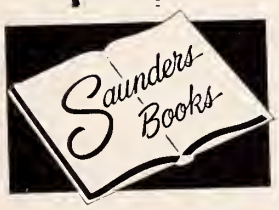
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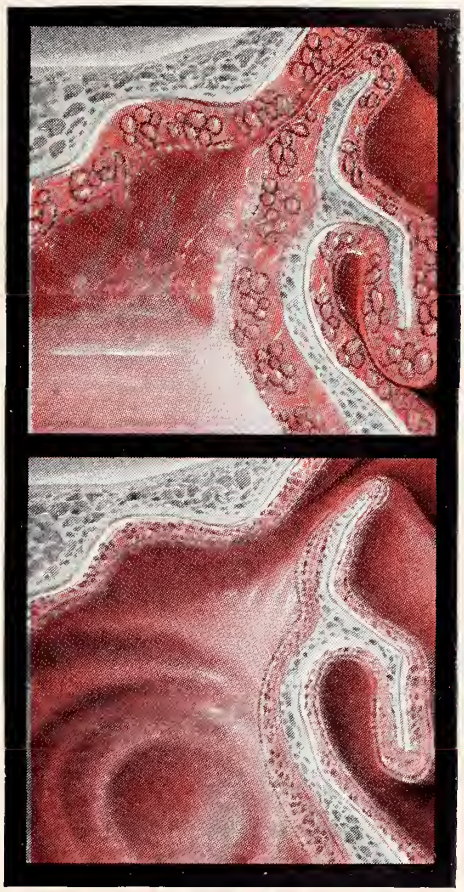
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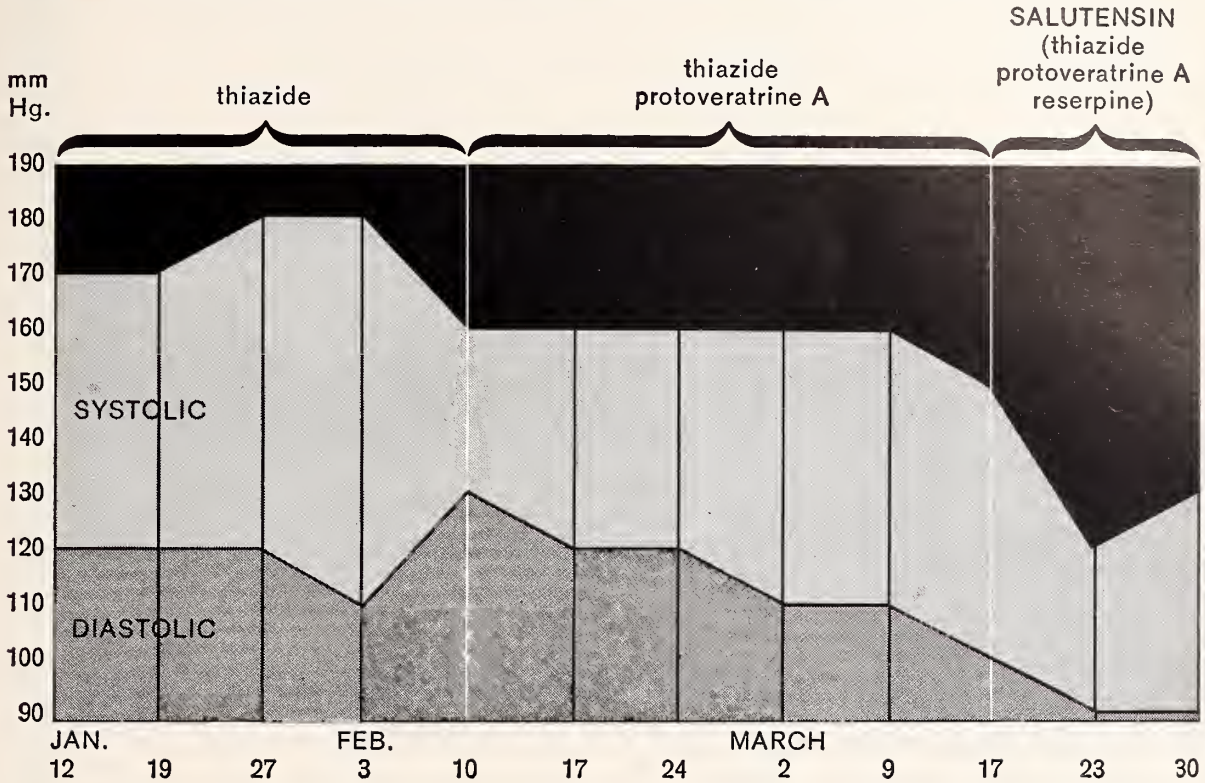
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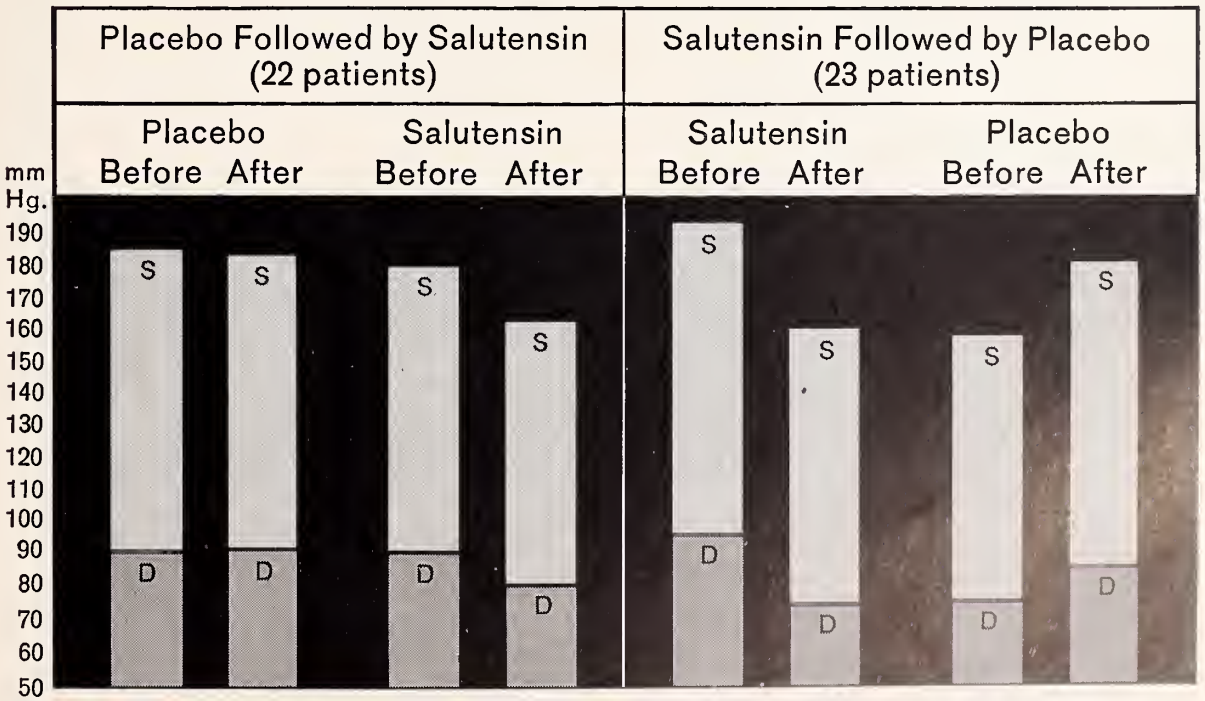
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Original Articles

Arizona Medicine

December, 1961 Vol. 18, No. 12

Extended Operations For Alimentary Tract Malignancy: Including the Esophagus, Stomach and Colon, Together With Recital of Experiences With the Second Look Operation

Owen H. Wangensteen, M.D.

"The silent interval in cancer is almost two years in length. We need to develop and assess methods which serve to identify patients who have cancer before symptoms become evident . . ."

THERE IS nothing very hopeful to say yet about cancer. The best prophet of the cancer game I have encountered was King George V. He opened the first International Cancer Conference in London in 1928, and speaking through his counsellers, by one of whom the King's message was read, said: "I note with interest that your object is research, both into the cure and causes of caneer. No doubt in the last resort the discovery of the cause is the only certain and absolute means of cure. But I am glad that you have not ignored the practical side of the problem. Remembering the thousands of sufferers from cancer, I feel that if your discussions lead to advance in diagnosis, treatment, or even palliation of the disease, this Conference will have justified itself and earned the gratitude of mankind."

From the Department of Surgery, University of Minnesota Medical Center, Minneapolis 14, Minnesota.

Presented at the Phoenix Surgical Society, Phoenix, Arizona, December 15, 1960.

The researches on which this presentation is based received support from a number of sources, including the following:

Damon Runyon Memorial Fund for Cancer Research and the Minnesota Division of the American Cancer Society (Second Look Aspects of the Problem).

The American Cancer Society and the Atomic Energy Commission (P32 Studies on stomach, colon and breast)

General support from the Donald J. Cowling Fund and the Jay and Rose Phillips Fund for Surgical Research.

Many of the people, privileged to hear the King's message — almost as long ago as when Virgil Counseller and I were young surgical apprentices at the Mayo Clinic where I had the privilege of being an Exchange Surgical Fellow from the University of Minnesota in the year 1924 — believed as I did then that the King had underestimated the capacity of the assembled investigators. Many International Cancer Conferences have been held meanwhile, but those prophetic and timely words of King George V might very well have been employed to invoke any cancer conference held in the intervening years.

Strides are being made. But those of you who are surgeons and work in this area must feel at times as I have felt, we are on the wrong side of the woodpile. We would like to get over to the other side where the green cases are piling in day after day. But we fail to recognize most visceral cancers until the patient has had symptoms for some time. However much we lament the circumstance that patients may not respond immediately to the urging of a symptom, the

much more important thing is that the silent interval in canver, as in cancer of the stomach and colon and in the lung, too probably is in the area of two years.

Recruitment for Medicine

Those of you who studied German in high school, like myself, long years ago probably read Theodor Storm's "Immense". Today, the reading of foreign languages is no longer required by many medical schools. In fact, if the applicant can read and write English and can pass his college examinations reasonably well, he probably can be admitted to a medical school, with a few explanations. Recruitment is our chief problem today in medical schools. Despite the birth rate explosion that Dr. Counseller referred to, which has not only affected Phoenix but our whole country and most countries of the world — even so not as many young men and women are studying medicine as we need. We graduate currently approximately 7,500 physicians annually in the United States. The main reason we have as many foreign physicians in our hospitals for training is that there are not enough American men and women graduating from our medical schools to man our hospitals and to fill the places available for specialty training; hence the need for continuance of a liberal policy relating to the influx of foreign physicians. Reliable sources suggest we should graduate 10,000 physicians annually to meet our current needs, let alone provide for increases in the future. Our 85 medical schools are not enough to meet this need. We are told 20 more medical schools are needed now. Phoenix could well supply one of those. In fact, in the not too distant future, the great State of Arizona certainly will have a medical school. Many medical schools, like our own, could take more students for the clinical years. If a few universities with strong science faculties could be persuaded to enter the training field in medicine for the preclinical sciences, some of the large metropolitan medical school centers could, I am very certain, absorb a larger number of students for the clinical years.

Cancer Detection

Theodor Storm, to whom I just alluded, died of gastric cancer. Just before he died he wrote a poem entitled, "Beginn des Endes" — the beginning of the end. The poem concerned 12 lines; in essence the thesis of the three stanzas was: I have a pain, it is nothing, and finally, it is too late. Unfortunately, this is still the way it is today with many cancers. We hope to get over to the other side of the woodpile. If presently we come to the end of the beginning, to use a Churchillian phrase, I would like to believe it will be in the area of diagnosis. However heretic it may sound to say so, I believe in 1961, one could make a far more direct, immediate and important percussion upon the problem of cancer, if regularly we could detect cancer early, than if the cause of cancer were discovered. Ultimately, ascertainment of the nature of cancer and its origins, will influence greatly and favorably our fight against cancer. Implementation of such knowledge, even if available, will not be however an overnight phenomenon. Witness how long it was before discovery of the tubercle bacillus made itself felt in the mortality columns of tuberculosis.

There is a significant difference in the accomplishment in Cancer Detection Centers with a few special cancers than is achieved in the management of similar cancers recognized in symptomatic patients. As all of you know, cancer detection centers have not been too successful. There is an enormous labor involved for the dividends earned. Yet your money in the bank probably does not earn a larger percentile dividend. It was not so long ago that money in the banks earned only 1 per cent. Why should we complain, when we are dealing in human lives if only three cases are found amongst 100 patients above 45 years going through such a detection center?

Just under 20 per cent of all deaths in this country are caused by cancer. The other important causes of death are heart disease, and disease of the blood vessels, accidents, and congenital deformities. Together with cancer, these items comprise 85 per cent of all deaths. You can understand, therefore, why insurance companies fail to be as concerned over many other causes, which account for the remaining 15 per cent of deaths. It is important, as Dr. Counseller said, to lend continuing liberal support to organizations like the Arizona Division of the American Cancer Society. The effort and great interest in the cancer problem of this organization continues to alert the public to report for annual examinations. Inasmuch as the silent interval in cancer is almost two years in length, we need to develop and assess methods which

serve to identify patients who have cancer before symptoms become evident — an area in which a major break-through in the fight against cancer could achieve an immediate and telling effect.

CANCER OF THE ESOPHAGUS

This discussion will concern largely gastric and colic cancer. I have a few things to say on cancer of the esophagus as well. This is one of the bleakest chapters in the surgery of malignancy. Cancer of the esophagus is primarily a cancer of males, about five to one. Cancer of the hypopharynx, however, is predominantly a cancer of females. Ahlbom (1936) suggested that the dysphagia observed in sideropenic anemias, accompanied by achlorhydria may be a harbinger of the development of esophageal cancer. Leukoplakia of the esophagus is probably an occasional precursor of esophageal cancer.

The success of surgeons with cancer of the esophagus, in many ways, has been disappointing. Sweet of Boston (1954), who is one of the keenest American exponents of esophageal surgery, has published results which suggest that, the operation for cancer of the lower third of the esophagus can be accomplished with a reasonable operative risk and is accompanied by a five year survival rate of 17 per cent. For curative resections, Sweet's 5 year survival rate was 34 per cent for cancer of the distal third of the esophagus. Sweet, however, is not enthusiastic over surgical attacks upon cancer of the upper two-thirds of the esophagus. Cancer of the cervical esophagus is still in its developmental stages. No surgeon yet has a brilliant record to report with this easily accessible cancer, the excision of which creates so many extremely difficult surgical problems.

It is strange indeed that squamous cell cancers of the esophagus are rather refractory to x-ray treatment, especially in the light of the circumstance that squamous cell cancers of the skin as well as of the cervix respond well to this mode of management. The nature of the difference in response is difficult to discern.

Some American surgeons, (Humphreys and Pucstow) have expressed keen disappointment over their failure to achieve five year cures in their own clinics in patients with cancer of the esophagus. Whereas we have a number of five-year cures following surgery in this clinic, the over-all mortality has been such that one cannot be enthusiastic over the accomplishment. It would be nice indeed if cures could be achieved by roentgen treatment without the mortality incident to surgical therapy. Up until now, however, the achievement of the radiologist with cancer of the esophagus has not been promising.

The Operation for Cancer of the Esophagus

My operation for cancer of the esophagus is conventionally a combined procedure; a mid-line upper abdominal incision with a split of the sternum into the fourth interspace. This maneuver permits easy access to the abdomen, providing an opportunity for assessment of whether or not there are subdiaphragmatic metastases.

The esophagus itself is mobilized by an incision in the third interspace. The superficial portion of the incision extends as far laterally as the latissimus dorsi mucle. However, the intercostal muscles between the third and fourth ribs are divided along the superior surface of the fourth rib along the entire length of the rib to the transverse process of the spine. The 3rd and 4th rib cartilages are divided anteriorly, and if need be to provide exposure, the second cartilage is similarly divided. The insertion of a Burford rib spreader permits ready access to the upper mediastinum. Even for cancers involving the lower portion of the thoracic esophagus, over a period of many years, I have made it routine practice to divide the vena azygos and to begin mobilization of the thoracic esophagus at this level. The merit of this procedure lies in the circumstance that, one is able thereby to excise a goodly segment of the esophagus proximal to the cancer as well as distal to it. The failure of a number of American surgeons to achieve five year survivors with partial esophagectomy is owing, I believe, to the circumstance that, the esophagus is divided too close, on the proximal side, to the cancer.

The criteria of a satisfactory cancer operation for malignancy of the esophagus are:

1. Adequate excision of the esophagus with sacrifice of normal esophagus proximally as well as gastric tissue distal to the lesion; 2. an adequate lymph node dissection; 3. a form of resti-

tution of anatomical continuity which will provide satisfactory function and will not be accompanied by a large mortality.

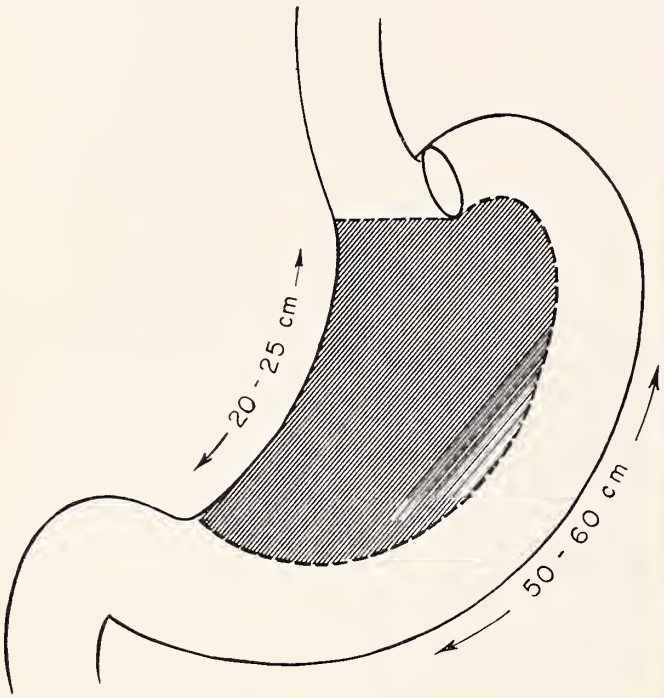


Figure 1. The Mes gastric tube for replacement of the thoracic esophagus, following its excision for cancer. The lesser curvature of the stomach is sacrificed. A pyloroplasty is added because of the concomitant vagotomy attending excision of the esophagus.

More and more throughout the world, surgeons affecting an attitude of interest in esophageal surgery are returning to the Franz Torek procedure of ridding the patient of his cancer at the first operation, reserving restoration of continuity to such a time that the patient can well tolerate the procedure.

The exploration described above does not provide the degree of visualization of the esophagus which can be obtained by the more conventional postero-lateral approach. It has the advantage, however, that the patient lies almost supine during the greater portion of the procedure. Moreover, after pulling the lung forward, it is not difficult to visualize the esophagus behind the lung root. Adequate hemostasis is effected by pre-placement of silver clips upon the intercostal arteries before they are divided. In this dissection too, it is possible to visualize the lymph nodes and to remove them with the esophagus.

Restoration of Continuity

The question of restitution of continuity is today probably the most difficult problem facing the surgeon. Many like myself have continued, even with many misgivings, to employ the stomach for the purpose. The only good thing to be said for the stomach, on this score, is its availability. It is handy. Attachment of the stomach to the esophagus invites esophageal erosion and esophagitis. In fact, severe hemorrhage and even perforation have been observed following elevation of the stomach for the purpose.

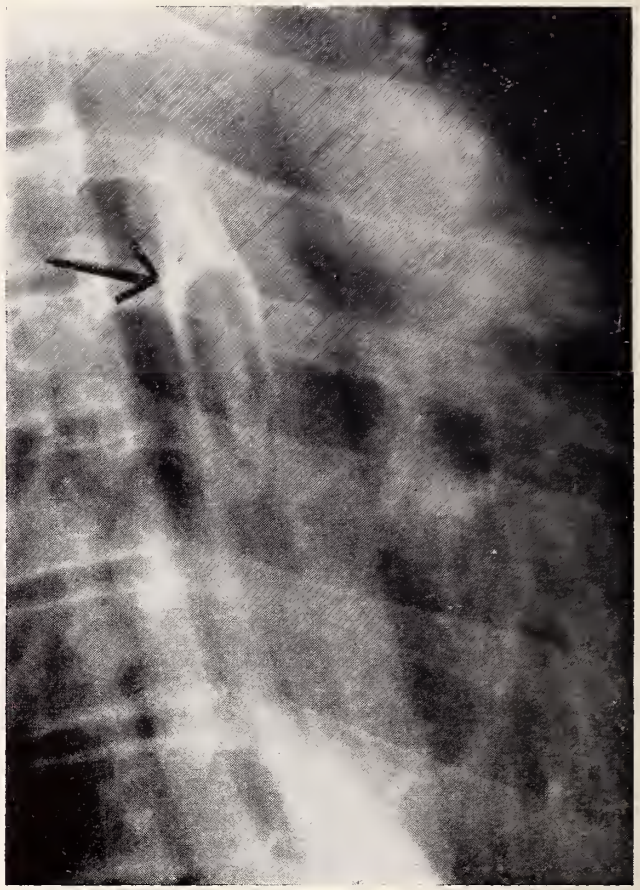


Figure 2a. X-ray film of a high-lying cancer of the thoracic esophagus.

Mes (1948) of Capetown described a method of mobilizing a tube from the greater curvature of the stomach, a method which this writer has used with advantage in some cases. However, too, it is not free from the objections raised to use of the whole stomach. Such a Mes tube can be implanted either behind the sternum or subcutaneously. In the latter location, it is not as unsightly as placement of a segment of intact stomach beneath the skin. I have had a few successes with this method. In Figure 1 is to be seen a variant of the Mes technique which I have used for cancers of the mid or upper thoracic esophagus. By saving the distal few centimeters of the esophagus it is possible to effect the anastomosis. In such a manner that the esophagogastric juncture and sphincter are retained, thereby avoiding the threat to esophagitis occasioned by the reflux of acid peptic

juice, when a direct esophago-gastric anastomosis is made.

Beeause of the problems inherent in use of the stomach as a substitute for the esophagus a number of surgeons have elected to transplant the colon for the purpose of restoring esophago-gastric continuity. Petrov (1959) (of Moseow) mobilizes the cecum and brings it or the ileum, granted its blood supply can be preserved, to the divided upper esophagus. More and more, how-

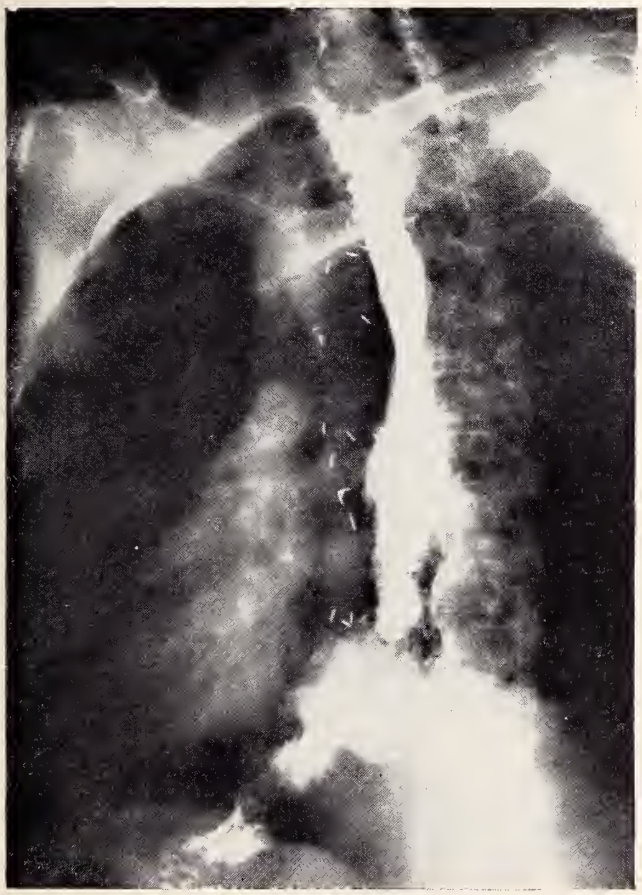


Figure 2b. The situation five years after replacement of the esophagus with a Mes tube drawn up through the esophageal hiatus. The anastomosis was made in the neck, at the level of the cricoid cartilage.

Such tubes can be drawn up, as here, in the natural position of the esophagus, or retrosternally, or even suhcutaneously. Such a tube placed subcutaneously does not leave the patient with a deformity that is very objectionahle.

ever, surgeons are beginning to use the left colon for the purpose, bringing the sigmoid eolon up in an antiperistaltic fashion pedicled on the mid-colic artery. The marginal vessels along the mesentcric edge of the bowel, if undamaged, assure an adequate circulation. The transverse colon is divided proximally. The distal segment is anastomosed to the stomach and colic continuity is re-established by anastomosing thc divided proximal segment of the transversc colon to thc distal segment of the pelvic colon. Whcreas the magnitude of the operation is greatcr, than migration of the stomach, the procedure is not accompanied by the untoward results so frequent after anastomosis of the stomach to the esophagus.

It is my impression, however, that however desirable use of the patient's own tubular tissues are for re-placement of the esophagus, the very magnitude of the undertaking indicates that if a simpler method were available it would be good to employ it. Over a period of many months, my assoeiates and I have toyed with the idea of eonstituting an esophageal tube from a plastic substance, using a tube fashioned from dacron, marlex or teflon into the interstices of which the tissues of the patient would grow. In the experimental animal, we implanted such tubes several weeks before their attachment to the stomach or the esophagus was effected. Unfortunately, however, the porosity of these tubes is such that the patient's own tissues which have grown into the interstices of the plastic tube are digested by the digestive juices.

More recently, we have employed a teflon tube with a large bore which is non-porous throughout the greater portion of its length. There is a short external porous over-lay at the distal end of the tube, which is sutured to the gastric wall and inverted into the stomaeh. Similarly there is also a porous in-lay at the proximal end into which the divided proximal esophagus is inserted. Both proximal and distal ends of the non-porous tube have a dacron apron which is used to cover the anastomosis. Whereas the method has yet not been employed in man, the utility of the method appears to have been demonstrated in the laboratory in experiments upon dogs.

CANCER OF THE STOMACH

In cancer of the rectum and the colon the frequent precursor is very likely an adenomatous polyp. In thc stomach, on thc contrary, thc polyp is an antecedent of gastrie cancer. For most cancers of the stomach we do not know what the antecedent is. In our cancer dctcction center we have employed the presence of achlorhydria to histamine as a screening test for gastric cancer since the beginnings of this activity at thc Univeristy of Minnesota 14 years ago. Whereas we have not much to record on the score of finding early gastric cancer, thc plan has been successful in uncovering a large number of patients harboring silent gastric polyps. As Brunn and Pearl (1926) pointed out such polyps occur only

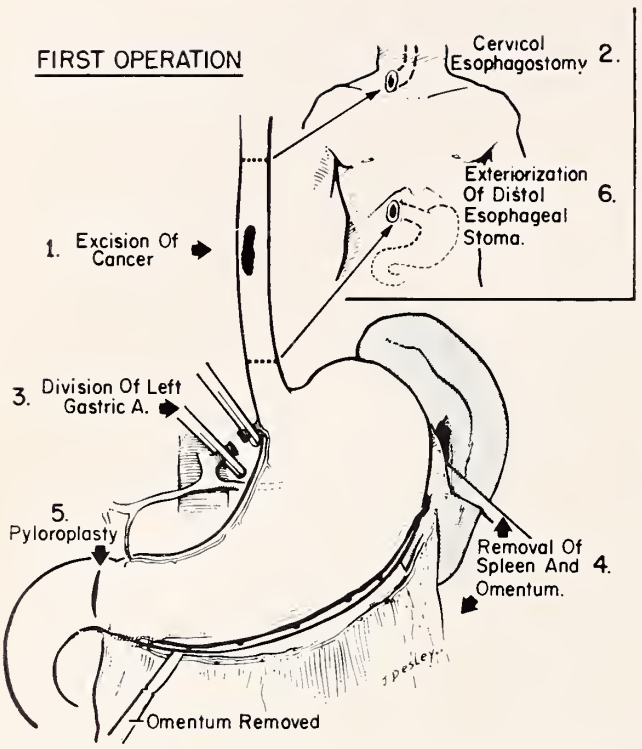


Figure 3. Author's operation for cancer of the upper thoracic esophagus with preservation of the esophagogastric juncture, to preclude reflux of gastric juice.

The operation is divided into stages. In the first operation, the thoracic esophagus is excised, save for preservation of a short segment in juxtaposition to the stomach. Before the continuity is effected in the second delayed operation, the esophagostomy is brought out beneath the costal margin; experience has shown it to be an effective deterrent to leakage of gastric juice.

in achlorhydric stomachs. Patients observed to have achlorhydria are subjected to follow-up studies with x-rays and gastroscopic examinations. Lyle Hay of this clinic has previously reported the experience of this clinic with gastric adenomatous polyps.(5,6). They are slow but definite precursors of gastric cancer. We do not excise the stomach willy-nilly when a polyp is detected, but continue to watch the patient at yearly intervals. When the polyp begins to increase in size, operation is advised, as it always is for large gastric polyps. In this way, many patients have been permitted to retain their stomachs for many years, before ultimately sacrificing a goodly segment of it in an attempt to thwart the occurrence of cancer.

The Importance of Achlorhydria

My humble role as a gastric consultant has usually been to ask the patient "Has your stomach been pumped?" It is extraordinary how many times the patient will have undergone numerous x-ray examinations, been gastroscoped a number of times, without having had his stomach pumped. Let me tell you of such an instance. A jurist of 50 years in my area had epigastric pain for which he consulted his physicians who took him to a roentgenologist who told him he had a duodenal ulcer. When his pain was unrelieved by the administration of alkalies and a Sippy diet, our patient asked for additional consultation. His physician took him to an internist who told him he had coronary disease on the basis of electrocardiographic findings. When neither nitroglycerin nor soda, each of which the patient carried in opposite vest pockets, did him no good, he asked for additional consultation. That is how I got into the picture. My question was: "Has your stomach been pumped?" the answer, "NO." He was found to be achlorhydric to histamine. Our roentgenologist, Dr. Leo Rigler, one of the best in the game, examined our patient with care, but with negative findings. I then told Dr. Rigler that the patient was achlorhydric. Dr. Rigler restudied the patient again with no findings. Because of pain and achlorhydria I asked Dr. Ragnar Ylvisaker to have a look. On gastroscopic examination he described a palm-sized lesion occupying the entire mid-segment of the stomach. At my request, Dr. Rigler did a third examination, and believed he could see something on the lesser curvature in the patient's gastric films. It is not often one gets a second let alone a third chance in this life. At operation, nothing abnormal in the stomach could be seen nor felt, but mindful of the gastroscopist's report, I did a 95 per cent distal gastrectomy. This patient is case No. 14 in the American Cancer Society

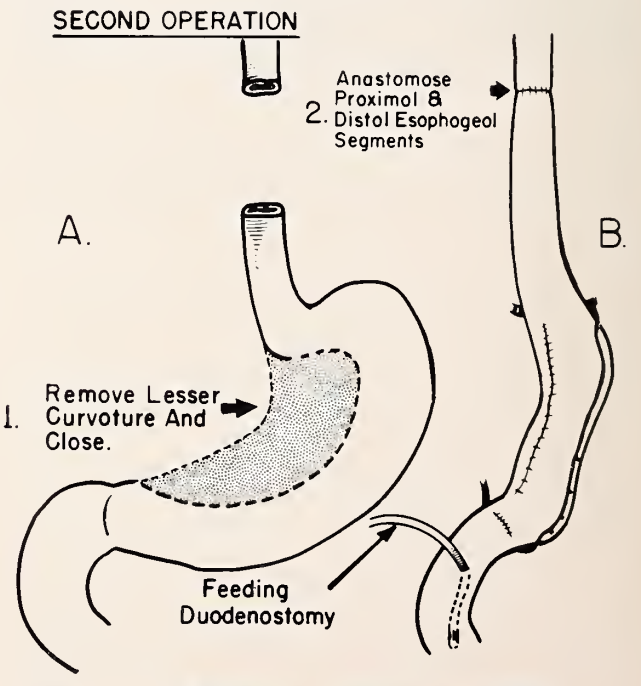


Figure 3b. The situation after restoration of continuity.

Monograph Series.(12) This man is alive and well today, more than 12 years later. He owes his life to the diagnostic help the achlorhydria afforded in pursuing the nature and cause of his pain. Incidentally, his coronary disease disappeared with the cancer. While some internists continue to debate whether it is worthwhile to do gastric expressions, my suggestion to you is that while our metaphysical friends engage in these unrewarding discussions, you and I go ahead and ascertain whether or no the patient's stomach is capable of secreting HCl under the influence of a stimulus such as histamine. Unfortunately, not all patients with gastric cancer are achlorhydric. In our experience approximately 80 per cent are.

This discussion should in no wise be interpreted as disparagement of x-rays in the recognition of gastric cancer. Roentgenology is still the most useful of all techniques in recognizing gastric cancer, but roentgen diagnosis of gastric cancer, obviously, has its limitations. And it is important to be alert to the shortcomings of diagnostic methods. We need to search for other methods which will complement the ability of roentgen techniques.

Use of P^{32} in Cancer Detection

When George Moore, the Director of the Roswell Park Memorial — and may I say he has breathed the spirit of life into that institution almost single-handedly over the period of eight years he has been there — when he was one of my surgical interns in 1947 he described the special affinity between fluorescein and brain tumors. After this striking success, he and a succession of other Surgical Fellows at our institution continued the search for other similar affinities but failed to find any. Professor Komei Nakayama of Chiba City, Japan, visited us in September, 1955, and told us of his observations with a Geiger counter using radioactive phosphorus in the detection of esophageal and gastric cancer. Employing Nakayama's methods, Shahon, of our clinic, failed to find it of any real help to us in the recognition of cancers at these sites. Shahon continued his observations administering 500 microcuries of phosphorus (P^{32}) intravenously to patients with known cancer in the alimentary tract. In order to permit delayed histological examination of the excised specimen he covered it with Saran wrap and put in in the icebox, placing the preparation in direct contact with an x-ray film. Shahon found that after six hours exposure, the cancer could be identified as a darkened area on the x-ray film. It was obvious, therefore, that if a method could be evolved of exposing the intact stomach to a film for a period of hours, we probably could re-duplicate *in vivo* what was obviously a very helpful technique *in vitro*. At the time, we were working with gastric balloons and local gastric cooling for massive gastric hemorrhage. It was natural, therefore, to identify a gastric balloon with the requirements of the situation and thus the technique I shall now describe in the recognition of gastric cancer was born.

The patient is taken to a dark room where he swallows the balloon (condom) which has been coated with a photosensitive emulsion, developed by Eastman Kodak Company. The patient is given intravenously 500 microcuries of P^{32} 24 hours before he swallows the balloon. The patient returns to the ward and comes back to the dark room six hours later for extubation.

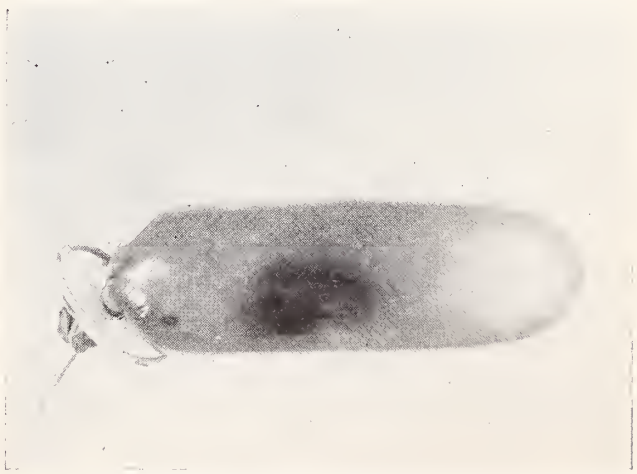


Figure 4. Preoperative radioautograph of a gastric cancer. The patient had been injected with 500 microcuries of P32. The black area indicates the site of the cancer, which was verified by operation.

A developing solution is poured into the balloon. The result can be read almost immediately. A dark area on the balloon suggests the presence of a cancer. Whereas George Moore dealt with disparity differences of 8000 per cent (greater uptake of fluorescein by brain tumors as contrasted with the contiguous normal tissue), the differences in absorption of P^{32} by cancer and the adjacent normal tissue on the contrary is slight, being only of the order of 50 to 100 per cent greater by the cancer. However, amplification of this small difference by the element of time over a period of six hours makes an important difference. My colleagues, Drs. Norman

Ackerman and Arthur McFee, and I are inclined to believe that this method will become a valuable complement to other methods in the recognition of gastric cancer. Unlike the x-rays, its worth is contingent solely on the slightly greater affinity of the cancer for phosphorus as contrasted with the normal contiguous tissues. Rarely do roentgenologists recognize mucosal gastric cancer. Usually it is only when the cancer invades the gastric wall and interrupts normal gastric peristalsis that the roentgenologist is able to make the diagnosis.

A few benign gastric ulcers have been erroneously identified as gastric cancer by this technique which is not a serious error. A more disturbing occurrence is that two gastric cancers were not recognized by the method. Yet, the method would appear to have an index of accuracy in the identification of gastric cancer at least comparable to that of roentgenography in expert and experienced hands.

Currently we are exploring use of P^{32} in the detection of tumors of the breast(6a). The method in established clinical cases of breast cancer apparently is working out as well as it has in the stomach. We are proposing presently to begin screening patients for breast cancer by this method in our Cancer Detection Center.

It should be possible, of course, to do multiple organ screening simultaneously. We are hopeful, in addition to the stomach, in females we may be able to do the breast and cervix too. Molds are being developed for these various anatomical sites. We are working too with a long sausage-like condom casing in the colon, hopeful that the method may be useful there as in the stomach, though obviously the technique of getting the colon balloon down to its ultimately desired location may always be a bit of a problem. Employing protoscopic techniques, we are currently exploring the promise of the method in areas of the colon beyond the reach of the sigmoidoscope.

Treatment of Gastric Cancer

The only treatment of gastric cancer is surgical removal. A ventrical upper mid line incision with an added extra pleural split into the fourth intercostal space, together with cutting diaphragmatic mid line fibres down to the serous pericardium provides excellent exposure. With the sternal costal arch divided and the fibrous pericardium slit, the last restraint to traction is gone.(12) This maneuver simplifies considerably the task of the person holding the retractor.

For large cancers along the lesser curvature of the stomach it is wise to do total gastrectomy, lest residual cancer be left at the site of section at the esophagogastric juncture. Total gastrectomy does *not* make digestive cripples, as some have insisted.

If surgeons making gastric reservoirs would devote the same energy in impressing upon the patient the necessity of eating, he might find far less indication for making gastric reservoirs. While the patient is still in the hospital my associates and I urge frequently upon the patient the importance of this instruction relating to food ingestion. Following operation patients with total gastrectomy are seen regularly in the Out-Patient Clinic, at two or three week intervals. The patient is urged to drink milk as a source of protein. If the patient's weight declines and edema comes into evidence, he is warned that he will be hospitalized in a couple of weeks if the record does not look better on the next visit. If the patient returns with ankle edema, he is admitted to hospital, a No. 18 large red rubber, four-hole duodenal tube is inserted into the nose through which whole milk is dripped constantly day and night. Three to four quarts of milk are given daily by this method. After about four days, or even less, the patient invariably says "Uncle" and from then on there is no further trouble with eating. This is my substitute for a man made gastric reservoir and the method has worked extremely well over a period of more than a dozen years. In other words, the patient has made the very important transition from rejection to acceptance.

My colleagues and I thought we were doing a reasonably radical operation for gastric cancer until the studies of Arhelger in my clinic, on second-look residuals, showed very definitely that residual cancer, not infrequently, was left by the surgeon in the primary operation in lymph nodes along the hepatic pedicle going to the liver and behind the first and second portion of the duodenum. Since Arhelger's (2,3) studies, we have added dissection of these areas as a regular component of the primary operation.

The two components of a satisfactory cancer operation are: 1. adequate excision of the organ involved, 2. satisfactory lymph node removal. For a large number of gastric cancers, an extensive subtotal excision, accompanied by an adequate lymph node dissection, suffices. In performing total gastrectomy, I have reverted to the technique of anastomosing esophagus and jejunum which I described more than a decade ago (1949).(10) The placement of the sutures beginning at the mesenteric border affords the surgeon the opportunity to make a secure posterior buttress, which provides protection against leakage. A generous enteroanastomosis is added also. Obviously, a Roux Y anastomosis would protect even better against retrojection of bile into the esophagus. However, the procedure described herein can be done at an operative risk about the same as that of subtotal excision, (less than five per cent) whereas the Roux Y operation in my hands commanded a 10 per cent mortality. The way to have a reasonably good record of ultimate survivors is to have as many survivors from an adequate operation as possible.

In our clinic, since 1936, there have been 188 patients who have survived five years or more. A large number of these have lived ten years and several 15, and a few even 20 years. This record, to be certain, is a very modest one, but there is no room for therapeutic Nihilism in gastric cancer.

CANCER OF THE COLON

Approximately 75 per cent of cancers of the large bowel (colon and rectum) are within reach of a 25 cm. sigmiodscope. The shortcoming of the endoscopic procedures in the large bowel is distance — inability to visualize the more proximal reaches of the colon.

Near Total or Total Colectomy for Colic Cancer

For a number of years I have championed total or near total colectomy as the primary operation for all colic cancers distal to the hepatic flexure.(11) It is surprising how often an unexpected cancer is found in the excised colon in an area which is not reached by the conventional segmental colectomy. Moreover, eventuate in cancer, are encountered frequently when near or total colectomy is done for colic cancer.

For cancer of the colon proximal to the hepatic flexure, in which instances, excision of terminal silent adenomatous polyps, which probably ileum is necessary to catch the lymphatic drain-

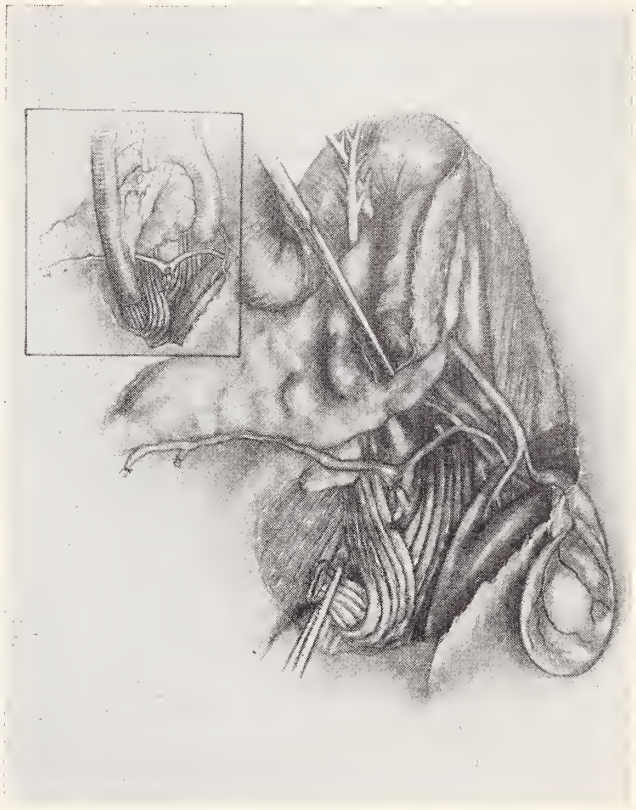


Figure 5. The extent of the lymph node dissection in gastric cancer. In this picture, total gastrectomy is depicted with restoration of continuity by a Roux Y anastomosis. In recent years, this writer has returned to end-to-side esophagojejunostomy, described previously (1949), because of the lesser operative risk attending performance of the procedure. A generous enteroanastomosis is also provided.

The Roux Y technique of anastomosis does afford complete protection against reflux. If the esophagojejunostomy is followed by bothersome esophagitis, at a subsequent second-look procedure, the afferent jejunal loop is divided, thus gaining the protection against regurgitant esophagitis provided by the Roux Y procedure.

age area in the operation, excision of all the distal colon would deprive the patient of his colic reservoir which consideration is unimportant in the patient who retains his ileum.

The technique of anastomosis employed in this clinic for a quarter of a century has been and continues to be a closed operation. We conveniently give no antibiotics prior to operation — only cleansing enemas. Before the anterior row of sutures is tied, the posterior row is injected from within. Frequently a few interrupted sutures of catgut are placed in the posterior row from within, to provide a secure mucosal closure posteriorly. The instruments used in this portion of the procedure are discarded and the surgeon dons a new pair of gloves.

The primary operative mortality for colectomy in this clinic continues to be between 4 and 5

per cent. For Dukes Group A lesions, the 5 year survival has been in the area of 80 per cent; for Dukes B lesions about 65 per cent; the Dukes C lesions, with lymph node involvement the 5 year survival has been 45 per cent.

The Second Look Program

It was the large disparity in accomplishment between lymph node negative and positive cancers that suggested the need for the Second Look Procedure.(11) Obviously, the second-look program makes it mandatory to tell patients they have cancer. I have yet to surprise a patient by telling him he has cancer. He knew it before.

The areas in which the second-look procedure has demonstrated its worth most effectively are: 1. cancer of the colon; 2. retroperitoneal fibrolipomyxoma sarcomas, currently described as rhabdomyoscarcomas; 3. the ovary.

The second-look procedure is undertaken conveniently six months after the primary operation. The patient is re-explored at similar intervals until either the cancer gets out of hand or the patient becomes cancer negative. Four colon cancers have been converted through this procedure to become cancer negative and survive for long periods of time up to more than ten years. Of eight retroperitoneal fibrosarcomas, three have been converted through use of the second-look procedure. These are enormous tumors and it is not unusual, I believe, to find on second entry in asymptomatic patients a few residuals from the first procedure.

In cancer of the ovary with evidence of carcinosis, four out of 22 patients have been converted. This is an area for use of the procedure which demands wider attention and approval.

The overall salvage rate in the areas in which the second-look procedure has been employed is 10 per cent, a small accomplishment to be sure. However, this concerns patients who would have succumbed to their malignancy without repetitive surgical intervention. Is this small accomplishment worthwhile? Ask anyone who has had cancer residuals and been converted to a cancer free state.

Summary

Over the past three decades, slow but definite progress has been made by the medical profession in its fight against cancer. The hope of the future lies in earlier detection. The ultimate solution of the cancer problem will come only when the nature of cancer is understood and when we have learned to prevent it. Long before that day, however, specific organ scrutiny tests will undoubtedly have been found for many of the frequent visceral cancers. In fact, techniques which will permit recognition of cancer in the long asymptomatic, silent interval, will make a tremendous impact upon the cancer problem. That day is now probably not far away.

The experience of this clinic with cancer of the esophagus, stomach and colon has been reviewed. A technique of excision of the upper thoracic esophagus with preservation of the esophago-gastric juncture, employing a Mes-type of gastric tube has been described.

The second-look procedure has been found particularly useful in the colon, and for large retroperitoneal rhabdomyosarcomas and for cancer of the ovary. An overall ten per cent conversion rate has been achived in these otherwise hopeless cancers — a modest accomplishment to be sure, but how otherwise could those patients have been cured today? Moreover, even when second-look procedures fail to effect lasting conversions to a cancer-free state, surprising prolongation of life is often achieved.

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The Pathology of Ruptured Ventricle

Ian Stewart, M.D.

A review of 29 coroner's autopsies shows rupture of the left ventricle not only to occur in areas of fresh or healed myocardial infarction (17 cases), but also in fatty infiltration of the heart (7 cases), arterial hypertension (3 cases), aortic stenosis (1 case), and without evident cause (1 case).

THE RECENT articles by Crawford and Morris (1960) and Mitchell and Parish (1960) were devoted almost exclusively to statistical details of ruptures of the ventricles obtained respectively in London, and in Oxford and Birmingham. Crawford and Morris, under the heading "Pathological Findings" say, "At necropsy pathological evidence of hypertension was very commonly noted and a history of diabetes frequently mentioned but because of the nature of these deaths there are no reliable data on blood pressure and associated conditions during life (likewise retrospective social analysis proved impracticable)." After quoting the sites of rupture they conclude, "Very severe coronary atheroma and coronary occlusion were usually reported."

Mitchel and Parish open their article with the words, "Rupture of the heart is a dramatic complication of myocardial infarction . . . " and this provides the keynote of their analysis of the 46 cardiac ruptures which occurred in the Radcliffe Hospital, Oxford and in the Queen Elizabeth and General Hospitals, Birmingham from 1939 to 1959. It is natural that patients who suffer a cardiac infarct and survive long enough to be observed closely in the ward and hospital mortuary should provide the material for their figures. They furnish also details of the cases of rupture which were the subject of a coroner's enquiry in the City of Birmingham for 1951-60, 215 in all, but do not give details of the pathological findings in these cases. One is left with the impression after reading both papers that ventricular rupture is the sequel to cardiac infarction and to no other condition.

This paper gives details of the necropsy findings in 29 cases of spontaneous ventricular rupture I have examined in the Craven District of Yorkshire in the years 1953-60. These were all cases within the Coroner's purview. None of them occurred in hospital and none of them had been in medical care. As will be seen a variety of conditions, sometimes in combination, were responsible for the disaster.

A. *Fatty infiltration of the Heart (7):* These were cases in which there was a great excess of epicardial fat which was accompanied by visible fatty penetration of the myocardium. The coronary arteries were normally patent with opaque walls showing varying amounts of fatty change or calcification. No sign of coronary thrombosis was found and there was an absence of the signs of recent infarction, that is of hyaline pallor, at the site of rupture. The ages of the persons were as follows:

Man: 63
Women: 66, 67, 68, 76, 78, 80.

The site of rupture in five women was in each case the anterior wall of the left ventricle just above the apex. In the sixth woman the rupture was midway along the left border of the heart. In the man the site of rupture could not be distinguished and must have been extremely small: the layer of fat on the anterior surface of the

Consultant Pathologist, Keighley.

heart was separated from the muscle by a ¼ inch thickness of clot and the pericardium was distended by blood and clot. Six of them showed no fibrosis of the myocardium. In one of the women rupture had occurred along the margin of a fibrotic patch.

B. *Arterial Hypertension (3):* In these cases these was marked ventricular hypertrophy, widely patent coronary arteries in two of them and only a moderate narrowing of the left vessel in the third. There were no signs of fibrosis or of infarction or of excess epicardial fat.

Ages: Man: 72 (heart weight 15 oz.)
Woman: 71 and 79 (Heart weights 16½ oz. and 17½ oz.)

The ruptures in one man and one woman were on the left border of the left ventricle and in the other woman in the lower anterior wall of the left ventricle.

C. *Myocardial Fibrosis with coronary obstruction (2):* A woman of 69 years with tortuous calcified coronary arteries which showed obstruction. The posterior wall of the left ventricle in an area 1½ inches in diameter was thin and fibrotic and rupture had occurred in its centre. The man, 82 years old, had calcified coronaries, the right being moderately narrowed and the left severely. There was a fibrotic thickening of the lower half of the front wall of the ventricle with rupture through its centre. There was no evidence of a new infarction but as the myocardium was largely absent in the fibrotic zones it would be most difficult to diagnose or deny.

D. *Coronary Thrombosis with fresh infarction (4):* these were all women. The coronary arteries showed varying degrees of advanced atheroma. None of them showed ventricular hypertrophy, excess epicardial fat or previous fibrosis.

Their ages were: 69, 75, 76 and 84.

In two the thrombosis was in the right coronary and the infarct and rupture in the middle of the posterior wall of the left ventricle. In the others the thrombosis was in the descending branch of the left vessel, with anterior rupture just above the apex in one and in the middle of the left border in the other.

E. *Coronary occlusion with infarction (6):* These again showed no ventricular hypertrophy, excess fat or previous fibrosis. The left coronary in each was almost closed by calcification or fatty change and there were varying degrees of obstruction in the right vessel. No thrombi were found.

Ages: Men: 68, 73.
Women: 72, 72, 74, 79.

In five the rupture was in the zone above the apex on the anterior wall of the left ventricle and in the sixth near the upper end of the left border. In one woman the rupture was limited to the outer half of the myocardium and did not penetrate into the ventricle.

F. *Myocardial fibrosis with Coronary Thrombosis (2):* Both were women with thrombosis in the left vessel. In each the lower front wall of the left ventricle was almost wholly fibrotic and rupture had occurred through the centre of the zone.

Ages: 74 and 87.

G. *Infarct without obstruction (2):* Both had large fresh infarcts of the middle of the posterior wall of the left ventricle and rupture in the centre of these. Both coronary vessels were patent in each case.

Ages: Man: 54 Woman: 73.

H. *Rupture without evident cause (1):* A man of 78 in whom the coronary arteries were calcified and only slightly narrowed. There was no thrombus, no ventricular fibrosis, no ventricular hypertrophy and no excess of fat. The myocardium was of normal appearance. On the back of the left ventricle close to the septum was a vertical split one inch long.

I. *Hypertension with infarction (1):* A man of 71 in whom the heart weighed 20 oz. The right coronary was almost blocked by a signet ring fatty patch 4 inches from its origin. A fresh infarct in the lower half of the septum had ruptured into the right ventricle. This case is un-

usual in that the man died abruptly. As Crawford and Morris have pointed out, death in septal rupture is usually delayed.

J. *Aortic stenosis (1):* A woman of 84 with a massively calcified bayonet shaped aortic valve. The coronary vessels were widely patent and partly calcified. There was no thrombosis and no visible infarct. There was a ragged tear in the middle of the back of the left ventricle.

Discussion: It will be seen from this list that the elements which singly or in combination enter into the causation of ventricular rupture are slow coronary occlusion, abrupt thrombosis, arterial hypertension, myocardial fibrosis, fatty infiltration and myocardial infarction. Rupture may even occur in the apparent absence of these factors. Crawford and Morris, in comparing hospital cases with those in the Coroners records state "how unrepresentative the post mortem material of teaching hospitals, the source of most statements on morbid anatomy, may be." The cases produced here are certainly different from the hospital cases quoted by Mitchell and Parish, which were all known cases of myocardial infarction. The latter authors observe that the sex ratio in rupture of the heart differs from that in myocardial infarction and quote several authorities who had also noted this. This discrepancy seems likely to be due to the assumption that rupture is due only to infarction. The cases described here suggest that fatty infiltration, hypertension and other factors have not been given the consideration they deserve.

REFERENCES

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2. Mitchell, J. R. A. and Parish, D. J. (1960) Brit. Med. J. 2. 1626.

W. B. SAUNDERS COMPANY features the following recent books in their full page advertisement appearing elsewhere in this issue:

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Arizona Workmen's Compensation Law As It Applies To The Practice Of Medicine And Surgery

Walter V. Edwards, M.D.

Dr. Edward's paper is a very helpful presentation and acquaints us with some of the history of the Workmen's Compensation Law and its application to the practice of medicine in Arizona. The contents of this paper should be helpful to all practitioners since almost all doctors are called upon to treat industrial accidents. A background of the compensation law and the manner in which it operates should therefore be well worth reading by all Arizona practitioners. An occasional article of this type should keep us abreast of the Workmen's Compensation Law and its application to the practice of medicine and surgery in Arizona.

INTRODUCTION: It is a distinct privilege and honor to be permitted to appear before you, my peers in the field of orthopedics, after a somewhat checkered career in the fields of medicine and community activity. Several months on the orthopedic service of a station hospital during World War II handling sprained ankles and disposition back and foot problems do not qualify me to discuss orthopedic problems specifically, nor does several months of handling battle casualties make me an expert in the field of trauma. Nine years of general practice in a rural area with a professional emphasis placed on obstetrics do not make my appearance before you entirely appropriate. However, during the latter years of general practice, one term spent as a Representative to the State Legislature from Yavapai County developed in me an interest in the law and in its application to our personal and professional lives. A subsequent five years spent in employment at the Arizona State Hospital dabbling in geriatrics and psychiatry as well as general medicine and surgery, provided opportunity for informal training in emotional disturbances and in administrative procedures, and under the guidance of Tiny Tuveson, I did set a few bones. The sequence of events lead to my association approximately eight months ago with your colleague, "Gentleman Jim" Moore.

In the course of functioning as assistant to Dr. Moore during these months I have been privileged to be in frequent contact with many of you and to have discussed, both formally and informally, a number of things which I wish to discuss with you this evening. The idea of such discussion was brought up to me some time ago by Tom Taber and John Ricker. With relative inexperience in the number of fields previously mentioned, I do not come before you with any great message or any startling observations. However, through the months I have made mental notes, as well as some written, of a number of problems related to the management of industrial injuries and diseases, both from a professional as well as from an administrative point of view. I trust that Dr. Moore, and others among you who have had more experience than

Presented at the meeting of the Arizona Chapter, Western Orthopedic Association, Ho Ho Kam Country Club, Coolidge, Arizona, February 24, 1961.

I will be patient with me and will correct me gently. Criticisms, questions and discussion from the floor will be most welcome, as time permits, when I conclude.

HISTORY: In order to better understand the nature of the problems with which we deal, we must be aware of some of the history of the Workmen's Compensation Law. Prior to the recognition of the statehood of Arizona, the injured workman, in the event of incapacitating injury occurring in the course of or as a result of his employment, had no recourse against his employer except through the courts. Before the days of many safety features in the mines, serious industrial injuries were common enough and were catastrophic to the injured workman. An enlightened constitutional convention wrote into the constitution a provision that — "The legislature shall enact a workmen's compulsory compensation law applicable to workmen engaged in manual or mechanical labor in such employments as the legislature may determine to be especially dangerous, by which compulsory compensation shall be required to be paid to any such workman by his employer, if in the course of such employment personal injury to any such workman from any accident arising out of, and in the course of, such employment is caused in whole, or in part, or is contributed to, by unnecessary risk or danger of such employment, or a necessary risk or danger inherent in the nature thereof, or by failure of such employer or any of his or its officers, agents, or employee, or employees, to exercise due care, or to comply with any law affecting such employment; provided that it shall be optional with said employee to settle for such compensation, or to retain the right to sue said employer as provided by this constitution." The wording of the constitutional provision and subsequent statutes resulted in inadequate protection of the injured workman because of the need for litigation in many cases to determine the employer's liability and the amount of compensation for the injuries sustained.

In 1925 a constitutional amendment was passed by the people to obtain a release of the injured workman and his family from burdensome and expensive litigious remedies for injuries, death and the uncertain and unequal compensation provided under the old law. The latter constitutional amendment, however, also provided that *percentages and amounts of compensation provided should never be reduced* nor any occupation eliminated except by further constitutional amendment. Since the effective date of this amendment and subsequent statutes, the injured workman has been much better protected. In fact, through liberal interpretation of the law by the courts a percentage of workmen are pampered and are castrated of motivation.

THE INDUSTRIAL COMMISSION: As most of you are aware, the Industrial Commission is composed of three members appointed by the Governor with the advice and consent of the State Senate. Each member is appointed for a six-year term with the expiration of terms staggered every two years. No more than two of the three members shall be of the same political party. The duties of the Industrial Commission are many, but include most specifically the administration of the Workmen's Compensation Law, the underwriting of workmen's compensation insurance, the classification of employment categories, the promotion of voluntary arbitration, mediation and correlation of disputes between employers and employees, the licensing and supervision of the work of private employment offices, the accumulation and collating of statistical information regarding employment, etc. The Commission holds a quasi-judicial status, and appeal of the decisions of the Commission are made directly to the State Supreme Court.

THE INDUSTRIAL COMMISSION AND THE DOCTORS: As citizens and residents of the State of Arizona and, as doctors of medicine and surgery licensed under the laws of the state, we are obligated to uphold the provisions of the Workmen's Compensation Law. As so licensed, we are authorized to provide care for the industrially sick and injured. In so doing, however, we are also obligated to function in accordance with the rules and regulations of the Industrial Commission. This is no thesis for the socialization of medical practice, but to be realistic we must recognize the entry of a third part into the patient-doctor relationship in our handling of industrial patients. As a matter of policy, the Industrial Commission has, however, done all in its power to maintain the patient-doctor relationship and at the same time to provide the injured

workman with the quality and quantity of care to which he is entitled under the law as it is written. We may have our dissatisfactions with many real or imagined problems in the area of industrial medicine. However, as you are fully aware the Industrial Commission has worked closely with the medical profession through the Industrial Relations Committee of the State Medical Association and has used the same body as a Medical Advisory Board which, to the Commission, is the medical supreme court within the state. Through the Industrial Relations Committee many problems have been at least partially solved, such as the Medical and Surgical Fee Schedule and the Rules and Regulations applicable to doctors handling industrial problems.

PROFESSIONAL RESPONSIBILITY TO THE INJURED WORKMEN: Among a number of things the law requires that the physician who sees a patient with an injury or an illness which, in the opinion of either the injured workman or the doctor, may reasonably be related to his employment, shall assist the workman in filling out and filing the proper forms. The filing of such forms, however, does not necessarily qualify the case for benefits under the Workmen's Compensation Law. When the doctor's report of injury, the employee's report, and the employer's report have been received by the Industrial Commission, the case may then be legally accepted as an industrial responsibility by the Commission under the law on the basis of the information provided. In the majority of cases where an individual receives a laceration or a fracture in an accident incurred while working, there is little question as to the industrial responsibility in the case. However, when a patient claims an injury and delays a week or a month before reporting to a physician with a problem which may be as much due to arthritis, for example, as to an alleged injury, the industrial responsibility is open to question. The statement of the physician that, in his opinion, the problem is related to the injury alone is not enough. In filing his report the doctor should state specifically, rather than imply, the relationship of the patient's problem at the time he is seen to the alleged injury. Without such analysis the Commission is not in a position to accept the case. The forms are, of course, filed with the Claims Department and if they are in doubt as to the relationship, the file is usually referred to the Medical Advisor for review. If the relationship is not clear to the Medical Advisor, with the statements at hand, further information from the attending physician is sought until the relationship is more clear. If the attending physician continues to report only an opinion, in order to clarify the situation from a medical-legal point of view, the Commission is then in a position to ask for a group consultation usually using the attending physician, appropriate specialists and the Medical Advisor. The need for such consultations, however, can be obviated almost completely by an adequate history-taking, clinical study and reporting by the attending physician.

Because of the almost necessary bureaucratic delay in the acceptance of cases after the initial reports are filed, or beforehand, if the case is truly an emergency, the physician then fulfills his strictly professional obligation to the patient in providing all care required by the patient's condition, but with the patient's account carried on a private basis until such time as the problem has been administratively accepted.

From a professional point of view progress notes are a necessity, but such progress notes, in detail, are doubly important in the handling of industrial problems. A statement by the attending surgeon to the effect that the patient is improving means relatively little to either the Claims Department or to the Medical Advisor when the report does not specify as to *how* the patient is improving. Inadequate progress reports do not provide a basis for approval of further physiotherapy or injections which, in the opinion of the attending surgeon, may be indicated. The need for such red tape is developed by a small minority of physicians who, albeit, with good intentions abuse the Workmen's Compensation fund with charges for overtreatment.

It is inapropriate to discuss with those of you here the wisdom of consultation in problems which are, in whole or in part, within the realm of other specialties. In such cases there may again be delay in administrative authorization for the consultation but with adequate documentation as to the reasons for requesting such authorization may be made retroactively and the patient need not lack for care. In many cases expediting of authorization may be affected

through personal contact or contact by 'phone or letter with the Medical Advisor.

PERMANENT DISABILITIES: Permanent disability rating is the bug-a-boo of the Industrial Commission and of industrial medicine and military medicine and surgery. As you are all aware, however, certain permanent partial and permanent total disabilities are recognized by law and awards on the basis of these disabilities are specifically spelled out. The unilateral losses by amputation are scheduled and the injured workman is compensated at 55% of his established wage rate over a specific number of months. When the attending physician or consultants have determined the extent of permanent partial functional loss of one extremity, again the Commission has a relatively simple job of making an award on the basis of 50% of the established wage rate, again for a specific number of months. Of course, in many cases the extent of permanent partial functional loss is only rather crudely estimated by those of us dealing with these problems.

However, as you know, our greatest problems arise from the unscheduled, or general physical disabilities, which result from combined permanent partial disabilities of two or more extremities, an extremity and an eye, the common spinal injuries, coronary occlusion, and brain trauma, etc. Some of our problems in this regard might be solved if we were able to use the guides to the evaluation of permanent impairment published by the A.M.A. Committee on Medical Rating of Physical Impairment. However, these guides have no practical value under the laws of Arizona, nor after the precedents established over 35 years of functioning under this law. Estimates of general physical disability by attending surgeons and consultants, however, do not much influence the actual financial remuneration for permanent disability awarded the injured workman. The estimate of general physical disability is recorded for comparison with future estimates, and the compensation for general physical disability is determined after the patient's condition has become stationary, or relatively so, and is based on 65% of the difference between his average monthly wages before the accident and the amount which represents his reduced monthly earning capaicty resulting from the disability attributable to the industrial injury. The earning capacity of the workman is determined over a specified period of time proir to the injury and over a similar specified period of time after the condition has become stationary. As you are aware, this provides the injured workman with little motivation to return to gainful employment, or with specific motivation to return to gainful employment at a substantially reduced wage. When an award has been made on the basis of the determined loss of earning power, and the patient is then receiving monthly compensation checks, he may then find himself able to return to his former occupation at a similar wage level with no objective evidence of increase in his physical functional capacity. Previous permanent disabilities are taken into consideration. If a man, as a result of a previous non-industrial injury has an estimated 25% general physical disability following which he sustains an industrial injury which results in an additional 25% physical disabiliity, making a total of 50%, his monthly compensation would, in theory, be only half of what it would be if the entire 50% physical disability were attributable to a single industrial accident.

OCCUPATIONAL DISEASE LAW: Occupational diseases recognized by the statutes of Arizona are specifically listed in most instances and include such problems as anthrax, glanders, tularemia, asbestosis, chrome ulceration or poisoning, dermatitis caused by direct contact with a variety of compounds, impairment or loss of vision due to acetylene or electrical arc welding, pemphigus and erysipeloid due to handling of meat products, poisoning by a number of specifically listed chemicals, metals and their compounds and silicosis. Also, included under the law are blisters or abrasions, synovitis, tenosynovitis, bursitis, cellulitis and ganglions, which may be due to continual pressure or friction or to repeated trauma or vibration of tools. It must be noted that these listed are not due to a specific accident. History-taking by the physician in this type of problem is most important. Under the Workmen's Compensation Law for injury there is, relatively speaking, no statutory limit to the medical benefits and compensation which may be received by the patient. However, under the Occupational Disease Disability Law the dollar value of the benefits received is limited to a maximum of $7500. In the rare instance this may work a hardship on the employee with an in-

dustrial illness. Such limitations were probably written into the law at a time when silicosis was the rule rather than the exception among hard rock miners. A variety of safety factors have reduced substantially the incidence of extensive silicosis among younger miners, but of course, through the years, with increasing industry in Arizona, other industrial hazards have arisen. Presumably we may in the future anticipate difficulties with radioactive substances. I repeat that history-taking by the attending physician is important to assist the Industrial Commission in determining under which law, if either, its responsibiity for the workman's problem, falls.

PLANS FOR THE FUTURE: As most of you are aware, the Gompers Memorial Clinic Rehabilitation Center instituted an Industrial Services Program in early October, 1960. This program has developed after some investigation of similar work-hardening programs in other parts of the country. It has been long recognized by the Industrial Commission and by those dealing with industrial problems that many patients require a program of physical rehabilitation and conditioning after protracted periods of inactivity necessitated by industrial injury and treatment therefor. The Industrial Services Program at Gompers has been set up to provide the place and the personnel to supervise, instruct and encourage such efforts. We are also aware of the innumerable workmen, most specifically in the laboring class, who are deemed able to return to light work by their attending physician, but who, because of the nature of the work to which they are accustomed, are unable to, or fail to return to gainful occupation on a light work status because employers will not provide or do not have light work available. The Industrial Services Program provides the equivalent of light work, under trained supervision, for eight hours a day, five days a week. If physical rehabilitation is not actually accomplished under the program, at least the patient has been observed and the observations recorded to the benefit of the attending surgeon and the Industrial Commission. We anticipate a gradual expansion of this program over a period of years.

Having had transmitted to us the tacit approval and encouragement of the orthopedists, neurosurgeons and psychiatrists of Tucson, investigation is being made into the feasibility of providing the services of an Industrial Commission Medical Advisor to the doctors in the Tucson area. The purpose of this is not to extend the policing of the professional handling of industrial problems, but rather to provide the services of a Medical Advisor to the doctors of the area to maintain satisfactory relationships with the Industrial Commission, and to increase the effectiveness of consultations which may be held. Consultation reports which are satisfactory from only a medical or surgical viewpoint, frequently do not assist the Industrial Commission in fulfilling its administrative functions in the individual case.

CONCLUSIONS: After having rambled over a variety of subjects with little discussion of purely medical and surgical subjects, I would like to conclude with the comment that— as physicians our responsibility to the injured and sick workman goes beyond the purely medical and surgical. We must, as clearly as possible, establish the relationship of the patient's symptoms and objective findings to a specific accident or occupation, and must clearly report objective findings as well as subjective complaints.

I am amazed at my temerity in discussing the subject at all in the presence of Dr. Moore with his 23 years in the field. I appreciate your courtesy and attention and assure you of our interest in maintaining freedom of medical practice through encouraging adherence to the requirements of the laws, as they now exist, and thereby obviating the need for further control and restriction.

There is now an average of 2.2 hospital employees for each patient treated in a general hospital, compared with 1.5 in 1946.

(American Hospital Association)

Insanity

William B. McGrath, M.D.

An understanding, an explanation, of interest to all practitioners. Review it.

A SLOGAN of the Mental Health Association is: "The Mentally Ill Can Come Back." The mentally ill can come back from where? From the past. One is mentally ill to whatever extent the unremembered past is distorting his life in the present. Isn't there a saying (Santayana) that those who refuse to study history are doomed to repeat it? If one neglects to understand his personal history, he may go on treating present situations in ways that were appropriate in earlier times and places. Repetition compulsions are among the commonest problems in psychopathology.

The police bring us a transvestist, a man who steals and wears women's clothing. During his childhood he was threatened and dangerously abused by an older brother. Literally to save his life he often had to seek the protection of his mother. Periodically in adult life he has an intense uneasiness in the world of men. He can no longer have the security of being close to his mother's person. So he will take the nearest thing to it, her clothing. And in doing so he feels mixed emotions of shame and relief, like a child who runs to hide in mother's skirts. His transvestism is a compulsion, the undertow of the past.

Now explanations or interpretations like this sometimes sound pretty far-fetched. There are a lot of jokes about them. Pseudo-intellectuals are disposed to go beyond humor to scoffing and sarcasm. Well, ridicule is easy if you have only surface acquaintance with psychiatry and if you do not have responsibility for the care of the patients. Behind the jokes there is a deadly seriousness to our work. Hour by hour, day after day, we see individuals whose lives have become a horrible nightmare. We need the jokes but we ask also for your moral support when our investigations take us into the occult and terrifying depths of insanity.

Insanity is like a nightmare or a dream. The dreamer is the madman sleeping. The madman is the dreamer in action.

When we are dreaming or when we are otherwise irrational, we are not really out of touch with ourselves. On the contrary, it is while dreaming that we do feel the touch of the unknown person within us. The imprisoned mind looks out through the eyes of the past, through the eyes of the animal, the brute, the savage and the child. We had rather not remember our brute origins. But the brute is there in the mind and brain, just as vestiges of the mammalian past are still to be found in the human body.

In the partial disturbances of the mind, the neuroses, we detect influences of the earlier years of the individual. In the total insanities, we seem to be witnessing eruptions from far more remote regions of the mind, possibly from the dim childhood of the race itself.

A fine young man, father of three little boys, went out on the desert, lay down naked and died in the sun. It was some hideous primordial sacrifice. A college professor spent all day stripping the insulation from electric cords, wrapped himself up in them, and then plugged in the circuit.

Presented at the Clinical Club Annual Dinner, May 11, 1961, Phoenix, Arizona.

He had sentenced himself to the electric chair. He left me over seven hundred pages of closely written gibberish with all kinds of cabalistic drawings. Should we laugh at his writings and toss them aside? No; especially when we learn that he had, in fact, killed and mutilated a child. When he killed the child and when he wrote to me, his mind was operating at levels inherited from an aboriginal, subhuman past. His incoherent ideas and strange drawings are unmistakably similar to some of the most primitive findings of the anthropologists.

In the world of insanity, you see, we do listen to an archaic language which we are desperately trying to understand. It is the language of the unconscious, the language of the past.

These subhuman regions of the mind are best exhibited to us in dreams. Internal events or conditions, particularly the blind gropings of the instincts, can hardly be understood or packaged in verbal memory. Hence there is little representation of ideas by words and none by ordinary grammar or logic. Most of the imagery is visual. And it is symbolic and enormously condensed. This seems hard to comprehend until you recall that the slightest gesture, even in waking communication, can convey more than a thousand words. The lift of an eyebrow or a pursing of the mouth can indicate a world of disbelief or expectancy. A patient swallows or licks his lips or looks flustered when a word or remark, even by remote association, prods some timeless urge below the surface of consciousness.

So we observe not just the incoherent language but the primitive and magical gestures of the insane. You are familiar with some of the symbols and rituals of the neurotic: the handwashing of guilt, the compulsive orderliness of the individual whose inner house is in anxious disorder, the hundreds of irrational acts which simultaneously hide and yet betray what is going on in the deeper regions of our minds.

At these levels, associations are quite loose. Matters or figures that are in any respect similar promptly become identical. Again, in everyday life we see the immature individual substituting any and every authority figure for the first authority to whom he reacted. In a dream or delirium a whole notion may be represented by its opposite or by some small part. This, too, occurs in sarcasm and poetry and in ordinary conversation. One says, "Boy, is he modest," meaning the opposite. Or one jumps from a particular observation to express a universal opinion.

In the unconscious, in the mind of the preverbal child and the brute, there are no dimensions of time and space. Everything is fermenting in the same cauldron. There are no concepts of closer or further, earlier or later. And the demand for gratification of an urge is like a reflex, immediate and heedless, like a reptile or a fish striking its prey. Does this seem absured? Then examine the man who, after drinking some wine, raped and murdered the only available victim, a helpless child. Or talk to the quiet lad who suddenly goes berserk and kills everyone in sight.

In every one of these tragic disorders nature has given us warnings. But people have paid no attention to them. It is disturbing to note the reluctance, even resistance, of most people to study the workings of their own minds. We had rather discuss the superficial relationships of the individual to others and to his present environment. We prefer to believe that pretty sentiments and good will hold the answers to mental disease.

We ask a nervous person, "Have you been having dreams?" And he shrugs it off: "I suppose so, but I don't pay any attention to them."

Why not? He would surely be alerted if there was a swelling or a rash on his body. Every physical symptom is a clue to disease or disorder in the organism. If a piece of shrapnel or a splinter should be lost in your tissues, the body will work unceasingly to be rid of it. And finally it will erupt, perhaps after many years and in a distant place. The mind, too, will never rest until it can have disgorged into consciousness any impediment to our well-being and progress.

These impediments, the unfinished business of the past, betray themselves in mental symptoms. You cannot afford to disregard a mood of inexplicable disquiet and restlessness. You had better pay close attention to your lapses of memory, your slips of the tongue, your overvalued ideas, your occasionally inappropriate

emotional reactions, your private superstitions and rituals. All of these symptoms — and especially your dreams — are clues to trouble in the mind.

People who are afraid to think about themselves are afraid of everything. This is not necessary and it is not safe. You do not need to build ever more frantic defenses of denial and repression to wall off the unconscious. The unconscious can be understood if you learn its language. The better you come to know the unconscious, this living representation of your own past and our whole racial origins, the freer you are. For then all of its energies become available to the waking and reasonable mind, instead of boiling and fermenting in vague nervous tension or erupting in the primitive and nightmarish excitements which we treat.

How do we learn the language of the unconscious? As in any science we gather data. We record our observations and see what information others have accumulated. We observe the effects of hereditary and acquired diseases of the brain and the influences of drugs on behavior. We study animals in laboratories where each of the environmental variables can be controlled and evaluated. We know something of what happens to children in orphanages and prisoners in concentration camps. We listen to the drums and rhythmic incantations of propaganda. We see the breakdown from civilized to barbarian to savage to predatory behavior when the individual has relinquished his soul to the mob. Most of all we try not to disregard any detail of the actions and reactions of our patients.

When they express themselves in symbolic gestures or incoherent words, we turn to all the other disciplines in which the human mind has tried to explain and come to terms with itself.

We cannot then ignore the most modern or the most primitive art; the most harmonious or discordant music, the most aboriginal or the most current history and philosophy and science.

Somewhere in the incredibly profuse and complicated data there is a theme or a message which nature is trying to convey to us. We never forget that nature is infinitely wise. A million or a billion years ago the tiny living cell was storing and transmitting more information than today's most elaborate computing machine. Equations which made atomic energy possible were already valid at the time of creation. The scientific discoveries of the future, especially in psychiatry, will simply be recognition of what nature has been trying to tell us all the time.

Third Annual Award for Prize-Winning Paper
1962 Annual Meeting

March 15 is the deadline for accepting original papers to be entered in open competition and judged by the Scientific Assembly Committee for the third annual award.

The Association has established this award "to stimulate research and original clinical effort" and to recognize the best scientific presentation by an Arizona physician.

The successful entry will be read by the author during the convention, and the award, a bronze plaque, will be presented at the president's dinner dance.

Section on Roentgenology

Acute Cholecystitis Emphysematosa

A CASE REPORT

Frank M. Behlke, M.D.

CHOLECYSTITIS, emphysematosa, an uncommon disease, occurs when certain gas producing bacteria invade the gallbladder, causing inflammation. The accumulation of gas within the gallbladder, and at times, the pericholecystic tissues, presents a characteristic appearance on plain roentgenograms, obviating the use of contrast materials in arriving at the correct diagnosis.

In 1901, Stolz(1) described three cases of gas within the gallbladder at autopsy. He contended that the biliary system was invaded terminally by gas bacilli the gas actually accumulating after death. Welch and Nutall(2) thought it likely that bacterial invasion could occur during life, but the gas production was a post-mortem phenomenon. It was obvious that both invasion and gas production occurred during life when Lobingier(3) in 1908, at operation, discovered an emphysematous gallbladder. Hegner(4) was the first to report the preoperative diagnosis of "gaseous pericholecystitis," from a flat film of the abdomen in 1931. The causative organism cultured was Clostridium welchii. Since then the majority of reported cases have been due to Clostridium welchii or Escherichia coli, alone or in combination. Other organisms cultured have been Aerobacter aerogenes, Staphylococcus albus, streptococci and an atypical gas producing Actinomyces(5). The purpose of this communication is to report a case of emphysematous cholecystitis and present a brief review of the medical aspects of this interesting problem.

CASE REPORT

A 60-year-old white male was first admitted to the Tucson Medical Center on September 24, 1960, with acute right upper quadrant pain associated with nausea and vomiting of 24 hours' duration. The patient had similar symptoms in the past, but less severe, and at another hospital a diagnosis of gallbladder disease was made. There was no previous history of jaundice, dark urine, or clay colored stools.

Physical examination revealed a well nourished male in acute distress. The skin was pale and moist, without icterus. Spider nevi were not present. The sclerae were of normal color. There was marked right upper quadrant tenderness and rigidity with absent bowel sounds. The highest temperature was 100.2°F on the second hospital day. Pulse was 50 per minute on admission with a blood pressure of 140/100. WBC 18,000 per cubic mm.; hemoglobin 14.0 gm. per cent; hematocrit 42.5 vol. per cent; VDRL nonreactive; urinalysis showed a few RBC's and WBC's per high power field with a specific gravity of 1.028. Liver function studies were excluded.

The diagnosis was an acute exacerbation of chronic cholecystitis and the patient was placed on bed rest with nothing by mouth, given pain relieving drugs and I.V. fluids to restore hydration and electrolyte balance. An EKG was abnormal showing left ventricular hypertrophy with no evidence of recent myocardial infarction. On the first hospital day an intravenous cholangiogram demonstrated normal calibre hepatic and common bile ducts and no evidence of calculi. The gallbladder did not opacify. Contrast material was identified in the duodenum. On the second hospital day, an oral cholecystography study failed to demonstrate gallbladder visualization, however, the gallbladder was filled with gas. Air was not seen in the ductal system. Lateral decubitus films demonstrated a gas-fluid level present within the gallbladder. A diagnosis of acute cholecystitis emphysematosa was made. Subsequent to this, an upper gastrointestinal series was performed demonstrating irritability of the duodenal bulb and duodenal loop, apparently on the basis of the acutely inflamed gas filled gallbladder (Fig. 1a). No free communication between the biliary tract and the duodenum could be demonstrated. The right upper quadrant pain disappeared and he was discharged on the third hospital day to return in one month for cholecystectomy. He was readmitted, however, 24 hours after discharge with a severe exacerbation of symptoms. A roentgenogram of the right upper quadrant continued to show gas within the gallbladder with air also in the intramural portion but not in pericholecystic tissue (Fig. 1b). Again, with conservative management consisting of bed rest, intravenous fluid, analgesics and an antibiotic his symptoms subsided and he was discharged on the third hospital day of the second admission.



Fig. 1a.

Right anterior oblique projection obtained during an upper gastrointestinal series demonstrating gas within the gallbladder without demonstration of a free communication of the biliary tract with the intestine.



Fig. 1b.

Anteroposterior film study obtained on the second hospital admission showing gas has dissected into the wall of the gallbladder which remains well outlined. Barium is present in the colon, the residual from a previous upper gastrointestinal series. Air is not present within the biliary tract but several cases of emphysematous cholecystitis have been reported demonstrating duetal gas.

On the third and final admission, approximately one month following establishment of the diagnosis, a cholecystectomy was performed and a markedly contracted, thick and edematous, and subacutely inflamed gallbladder was removed. The cystic duct contained small stones. A culture was not obtained. Pathologic report was chronic cholecystitis and pericholecystitis with gangrene and cholelithiasis. The patient made an uneventful postoperative recovery.

DISCUSSION

A review of the literature reveals that, clinically, the patient with this malady presents with typical gallbladder symptoms and signs. Nausea and vomiting associated with upper abdominal pain localizing to the right upper quadrant is invariably present. In over half of reported cases

a palpable mass in the gallbladder region has been found. Jaundice may be noted and the temperature elevated between 99° and 103°F in conjunction with a high white blood cell count. Diabetes mellitus has been reported in approximately one-half of reported cases and calculi have been found about 50 per cent of the time. Just the converse of usual cholecystitis, men outnumber women 3 to 1(6) with the highest occurrence in the 5th and 6th decades. More than 80 per cent of patients have been over 50 years of age, with the over-all range of 27 to 75 years.

RADIOLOGIC ASPECTS

Basically, the diagnosis can be established on plain film examination of the right upper quadrant with the patient prone, erect or in the right lateral decubitus position. A fluid level will frequently be encountered in the upright and decubitus projections. The time interval for the gas to appear after onset of symptoms is variable but usually within 72 hours sufficient gas will have accumulated to be of diagnostic import.

As the gallbladder distends there is dissection of gas between the muscularis and mucous membrane as described by Freidman, Aurelius and Rigler(7). The infection may become severe enough that abscesses containing gas and fluid appear in the surrounding cholecystic tissues. Rarely the inflamed gallbladder may perforate and gas appear beneath the diaphragm as reported in two patients by the Rabinovitchs, Pines and Lipton in 1958(8).

Basically, as presented by Jacobs(9), there are four methods of gas entering the gallbladder: (1) Infection of gallbladder by gas forming organisms; (2) Surgical procedures such as cholecystojejunostomy or choledochojejunostomy; (3) reflux of air from the duodenum through a relaxed sphincter of Oddi and (4) spontaneous cholecysto-enterostomy. In the differential diagnosis, lipomatosis of the gallbladder may be considered but in this instance there is no gas within the gallbladder, there being just a slim lucent rim outlining the wall.

In this case, Skokan's(6) criteria for establishing the diagnosis was met; namely, (1) presence of gas in the lumen of the gallbladder and gas infiltration of the wall; (2) typical clinical symptoms of acute cholecystitis; and (3) exclusion of pathological communication of the gallbladder and biliary tree with the digestive tract.

TREATMENT

Grainger(5) has advocated operating prior to the appearance of intramural gas and waiting if this appears before a cholecystectomy can be performed. Jacobs(9) reports two cases operated upon four days and eleven days after roentgen diagnosis of gas within the gallbladder, both of these making a satisfactory recovery. Preoperative polyvalent gas gangrene antitoxin, antibiotics and restoration of fluid and electrolyte balance are recommened along with bed rest and analgesics. The danger of rupture of the gallbladder with peritonitis or abscess formation is a possible complication to be treated with antitoxin and antibiotics as the situation warrants. Cholecystectomy is the procedure of choice although cholecystostomy may be indicated if rupture or abscess formation are found on exploration. Complications such as pulmonary embolism and severe sepsis have been reported. In this presented case, conservative treatment followed by cholecystectomy in one month after subsidence of symptoms provided an excellent recovery without complications.

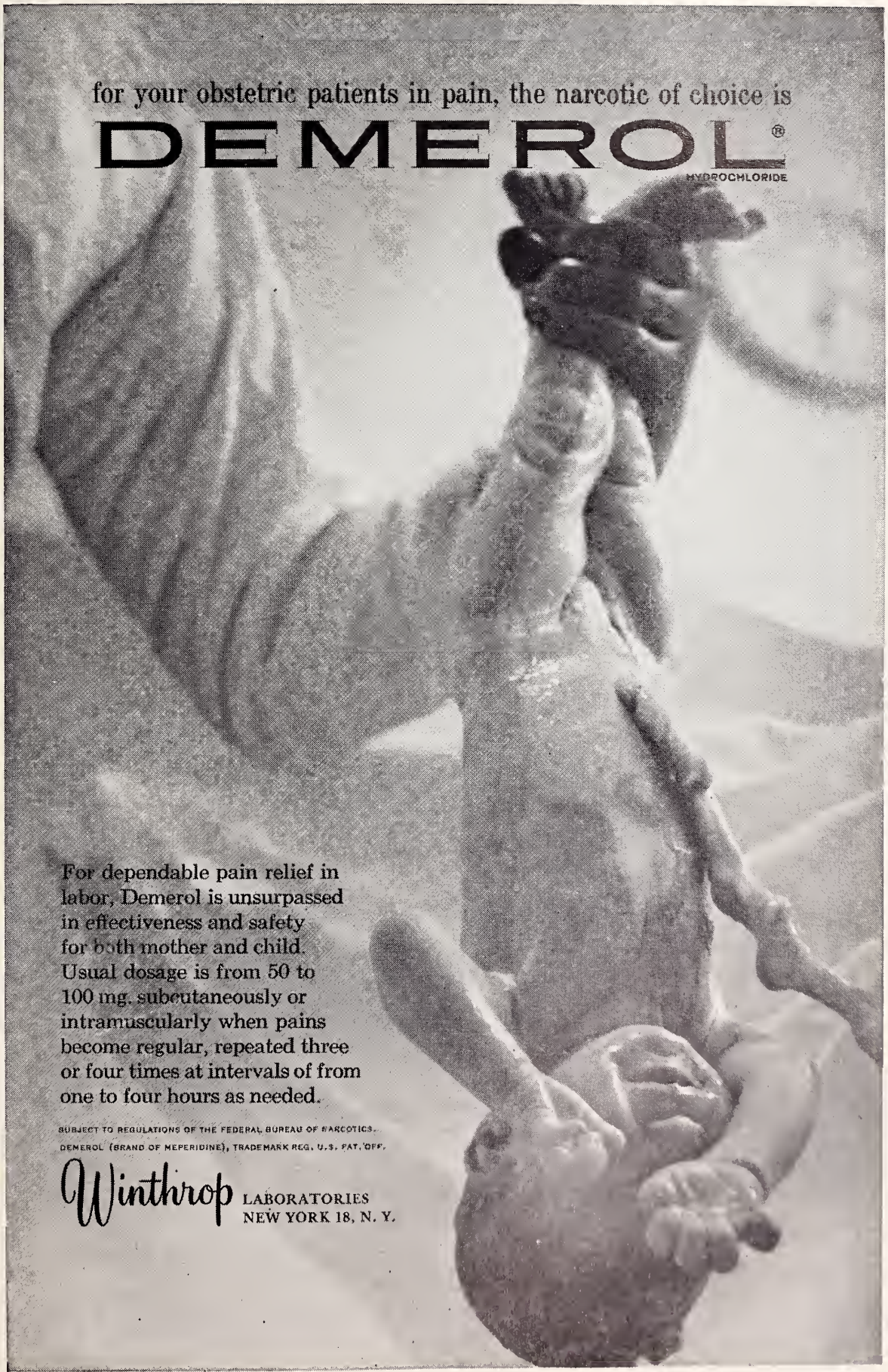
SUMMARY

A case of cholecystitis emphysematosa is reported with a review of signs and symptoms, etiology, roentgenographic diagnosis, and treatment.

The plain abdominal film study of the right upper quadrant demonstrating a gas distended gallbladder frequently with gas-fluid level in the decubitus projection is diagnostic of this disease.

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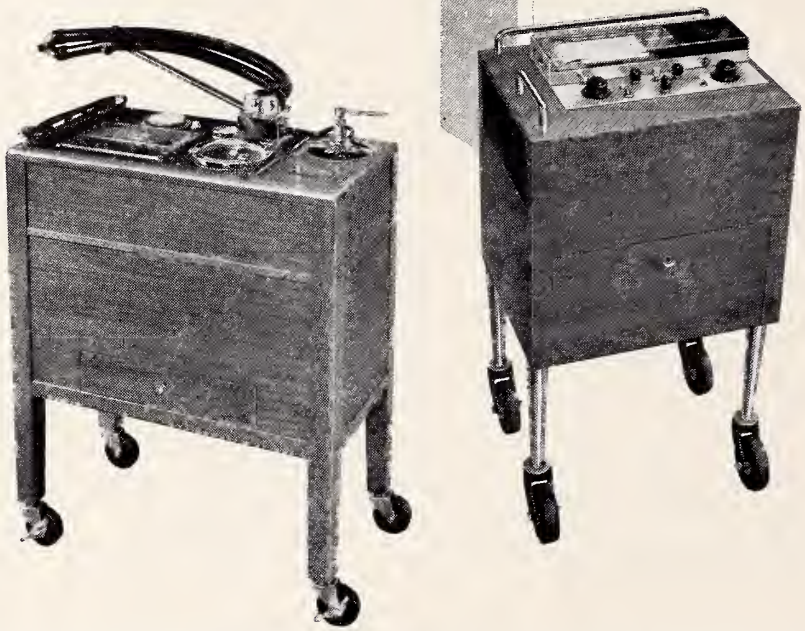
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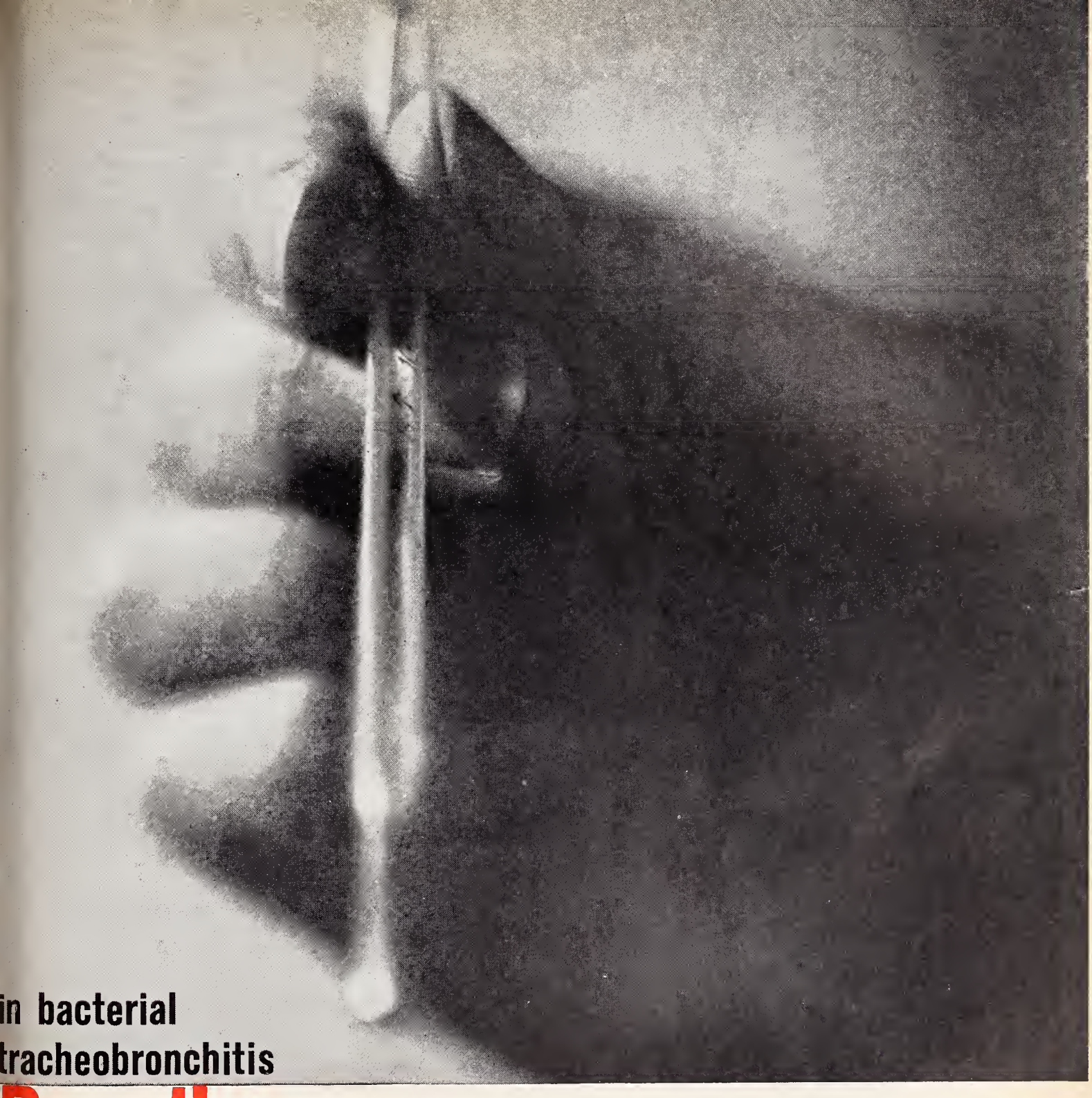
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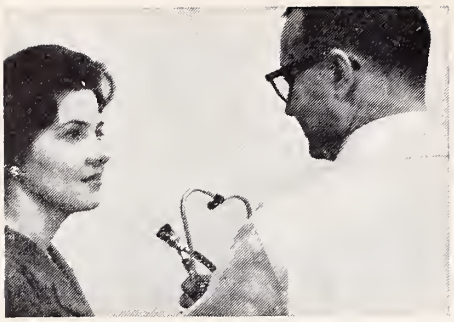
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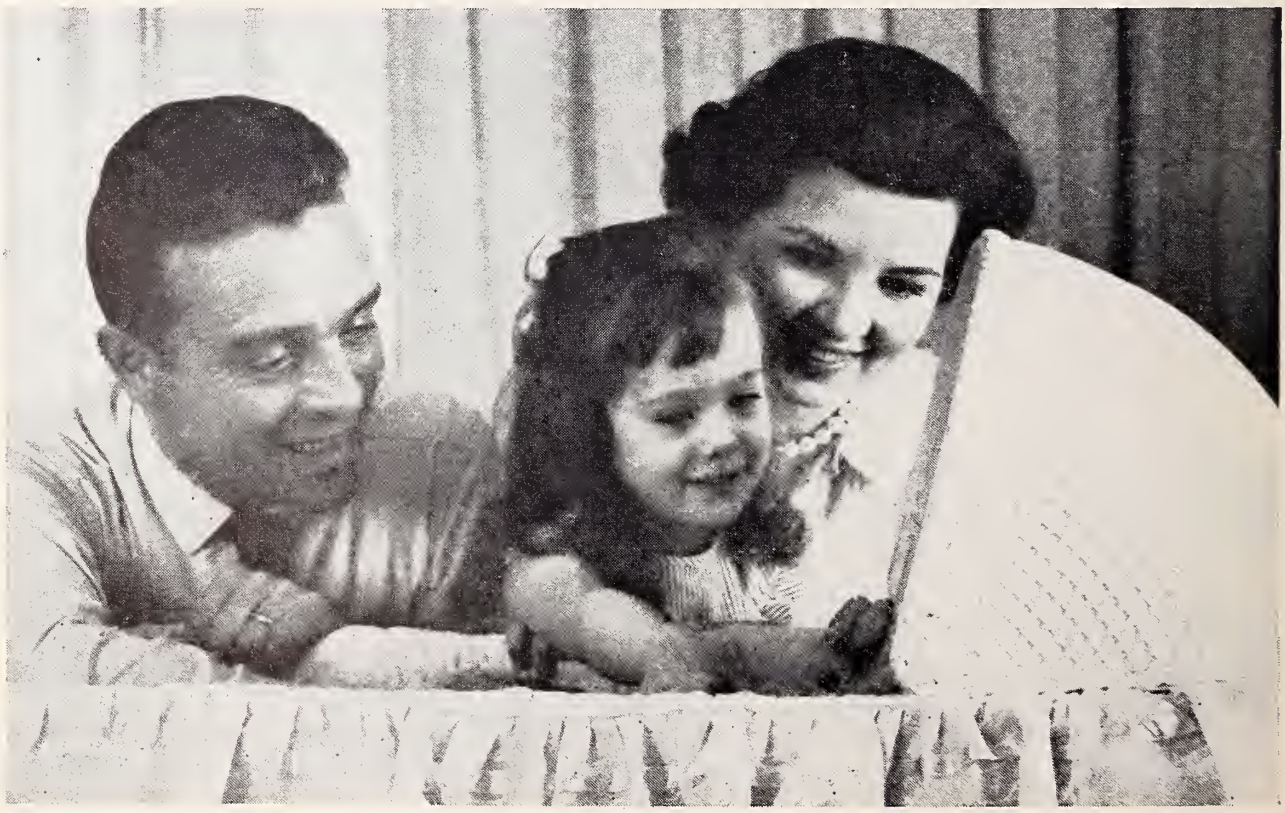
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The President's Page

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Leslie B. Smith, M.D.

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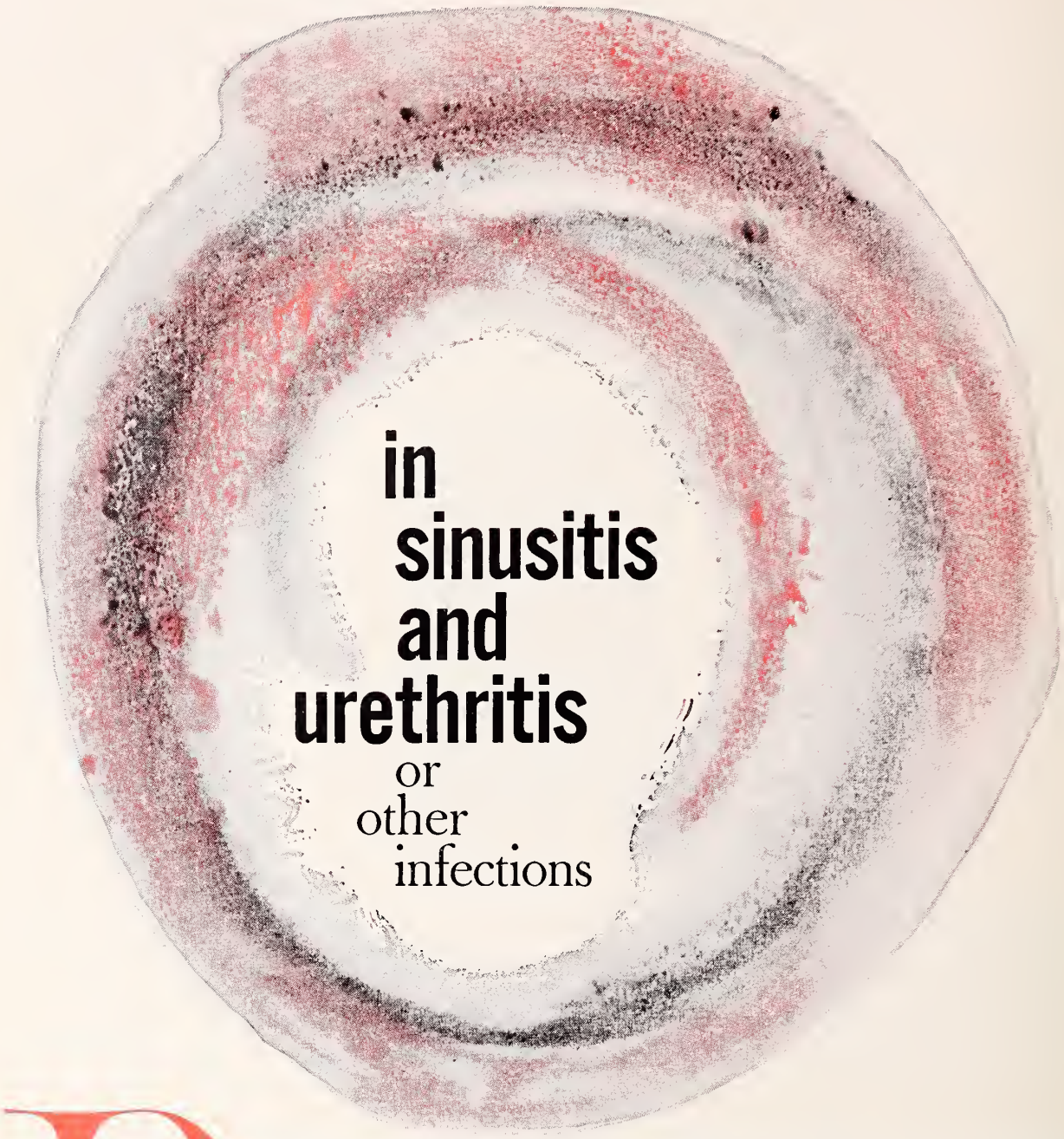
The aceumulated frustrations, resulting from our everyday endeavors to aehieve our goals and to adapt to the many faeets of our ehanging environment, make this season a most neeessary respite.

We should enhanee our stature by mixing the Birthday festivities with more serious deliberations — by seeking good where there is known evil — tempering our aversions with tolerance — modifying our hates with humanism — redueing our selfishness with altruism and we, as physieians, must strive to compensate for our indifferences with more loving, tender care.

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Editorials

Have M. D., Will Travel

Have you ever had the urge to go somewhere or do something different, making use of your medical training? Most doctors dream of a "sometime" when they can sign on as a ship's doctor and sail to remote and romantic parts of the world or perhaps go along as medical advisor for some scientific exploratory expedition or find some other adventure — some fruition for their day-dreams and utilization of their medical training.

A group of five physicians in Tulsa, Oklahoma have found a way to do something about these desires and at the same time to render a soul satisfying sort of medical service. These five men who are members of the Presbyterian Church of Tulsa, Oklahoma, are giving up their practices for six week periods to serve voluntarily at the Miraj Medical Center in Miraz, India.

And now it may be news to you to know that the A.M.A. has a new department of International Health which administers a program approved by the House of Delegates last June whereby any member of the A.M.A. may volunteer for service in the foreign mission fields on a temporary basis when emergencies arise. Missionary agencies representing every major de-

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Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accept for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
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R. Lee Foster, M.D.

EDITOR'S NOTES

(Following notes are taken from "The Effects of Nuclear Weapons on Tucson," by Thomas L. Martin, Jr., Dean, College of Engineering, The University of Arizona, published October, 1961 by The University of Arizona Press, Tucson.)

" . . . following conditions will have to be met for Tucson shelters:

(1) They must be at least 4 feet underground and preferably 5 feet . . .

(2) They must take at least 5 psi of peak overpressure, and preferably 20 psi . . .

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"But we must recognize also that weapons of war are evaluated according to their usefulness in the achievement of military, economic, and political objectives. The relative horror of a weapon does not figure in this evaluation except in its potential for intimidation."

" . . . much of the military effectiveness of nuclear weapons depends upon lack of preparation for civilian defense. If the population is sheltered and prepared, nuclear weapons are far less attractive and less useful."

"It is vital that the people of Tucson understand that they *can* survive a nuclear attack on Tucson if, and *only* if, they are in a well-designed shelter."

" . . . if you have a shelter, the chances are at least 7 out of 10, and probably better, that you will survive the attack. The odds may be slightly different in other parts of the country, but not significantly. Thus, there is no reason to run away from Tucson."

* * *

" . . . KILOTONS (thousands of tons of TNT) and MEGATONS (millions of tons of TNT."

" . . . *air bursts* are used against targets which are most easily damaged by overpressure."

" . . . air bursts are ineffective against hardened targets . . . "

" . . . *surface bursts* are used to destroy *hard targets* . . . "

"Davis-Monthan is a "soft" target."

" . . . so it is reasonably realistic to assume that an attack on Davis-Monthan will use either a 2 or a 5 megaton air burst."

"Very little fallout is produced by an *air burst* even in the immediate vicinity of ground zero. Thus, in the event of an air burst over Davis-Monthan, in the megaton range, there would be very little fallout and it would be necessary to occupy underground shelters for only a few days at the most."

" . . . shelter planning in Tucson should assume that shelters will be occupied for as much as four to six weeks in the event of an attack on Davis-Monthan."

"It is believed that the rocket booster used to orbit the spaceships Vostok I and II could easily deliver a warhead with a yield of 25 megatons or more, anywhere in the United States."

" . . . the radiation received by sheltered personnel because of the initial radiation must be held below 50 roentgens. Indeed 50 roentgens must be taken as the absolute maximum permissible; ideally it should be 5 or less."

" . . . *accumulated* dose, though spread over several weeks, will produce essentially the same effects at about the same levels of radiation as the single exposure effects . . . "

* * *

WHOLE BODY, SINGLE RADIATION DOSE EFFECTS(1)

Single Radiation Dose in 24 Hours	Clinical Effects
0 to 25 roentgens	none
25 to 50 roentgens	some genetic effects; no serious clinical effects
100 roentgens	nausea and fatigue
125 to 150 roentgens	vomiting becomes a problem
200 roentgens	some fatalities 2-6 weeks later; nausea, vomiting, and fatigue within 24 hours; sterility, temporary or permanent
400 roentgens	immediate incapacitation from which many never recover; some deaths in 2-6 weeks.
600 roentgens	assumed fatal in 100 per cent of the cases

" . . . children under 18 should not receive *any* radiation if it can be avoided. Doses of 5 roent-

(1) Excellent radiation measuring equipment may be obtained for $19.95 plus tax by writing to The Bendix Corporation, 3130 Wasson Road, Cincinnati 8, Ohio. This includes a dosimeter, rate meter, and calibrating device, and is called the "Family Radiation Measurement Kit."

gens or more will show up as genetic defects in their decendents."

" . . . 3 feet of earth cover provides an attenuation factor of 25."

" . . . 4 feet of earth cover seems to be the minimum desirable for Tucsonans, and 5 feet would be ideal."

ATTENUATION OF INITIAL RADIATION BY EARTH

Depth of Earth Cover in Feet	Attenuation Factor
2	less than 10
3	25
4	70
5	220
6	1000

ATTENUATION FACTORS AGAINST FALLOUT RADIATION

Depth of Earth Cover in Feet	Attenuation Factor
2	about 70
3	above 1000
4	above 100,000
5	nearly infinite
6	nearly infinite

FALLOUT RADIATION REDUCTION FACTORS

Time in Hours After the Explosion	Radiation Reduction Factor
1	1.0
5	0.150
10	0.063
24 (1day)	0.022
168 (1 week)	0.00215
336 (2 weeks)	0.00093
672 (4 weeks)	0.00040
1008 (6 weeks)	0.00025

"There will be 300 or more Titan and Atlas missiles in place when the nationwide system is complete in about 1964 . . . "

" . . . President Kennedy . . . September 25, 1961 . . . "

'Every man, woman, and child lives under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident, miscalculation, or madness."

"We must be prepared for any eventuality; for Tucson this means preparation for the possibility of two 10 megaton, or one 20 megaton, attack against each of the Titan silos surrounding Tucson."

" . . . if a shelter is designed to survive an air burst over Davis-Monthan Air Force Base, it will, in all probability, survive the blast effects of an attack against the Titan bases."

" . . . the primary concern of Tusconans, relative to an attack on the surrounding Titan bases, is *fallout* because the other effects prove to be relatively unimportant."

* *

" . . . serious fallout over Tucson no matter what the wind direction may be."

"As a result, from the radiation levels . . . it seems very likely that the 1-hour reference radiation from fallout

(1) *cannot possibly be less than 15,000 to 20,000 roentgens/hour.*

(2) *could very probably be much more than 20,000 roentgens/hour, conceivably as high as 100,000 roentgens/hour if there is a great deal of overlapping of fallout patterns."*

* *

" . . . 3 feet of earth provides a fallout attenuation factor of about 1000."

" . . . using *at least* 4 feet of . . . "

"The extra foot of earth cover is the cheapest insurance available. Five feet of earth cover would reduce this radiation dose to a negligible figure."

* *

" . . . in the event of an attack on the Titan bases, Tucsonans will be in their shelters almost continuously for 4 weeks and intermittently for many additional weeks. At the very least, shelter planning must assume 4 weeks of occupancy. Conservative planners will consider very strongly the possibility of occupancy for 6 weeks continuously."

* *

"(1) Shelters should be at least 4 feet underground, and 5 feet would be preferred. No advantage is secured by going deeper.

(2) Shelters should be designed to resist blast overpressures ranging between 5 and 25 pounds per square inch, depending upon the shelter location relative to Davis-Monthan.

(3) Air-vent pipes and other structures above ground will be subjected to horizontal pressures which

(a) will probably be only about 3½ pounds per square inch, but

(b) could rise as high as 15 to 40 pounds per square inch, though this is unlikely.

(4) Shelter doors and entrances must be able to withstand overpressures in the range of 5 to 25 pounds per square inch without buckling or jamming.

(5) A second, emergency escape hatch must be provided in the event that the main entrance is damaged or heavily covered

by rubble. This can usually be made available by a removable plate inside the shelter and sand packed above it when the shelter is backfilled. This makes it easy to dig out.

(6) The shelter should be large enough and well enough stocked to permit occupancy for one month or longer. A wise precaution would be to provide nearby, buried cachcs of extra supplies which could be gotten within a short period of exposure outside the shelter.

(7) The air filter should be shielded by steel so that it will not be ignited by the thermal blast.

(8) The shelter entrance should have at least two right turns in it and should be at least 2 feet away (and preferably 3 feet from the main structure of the shelter.

"*All of these structures should have curved or domed roofs,* the greater the curvature the greater the strength. There are some prestressed, precast reinforced concrete shelters being designed for use in Tucson according to the blast resistant requirements specified herein."

NOTE: Dr. Thomas L. Martin, Jr.'s booklet, "The Effects of Nuclear Weapons on Tucson," can be obtained from the University of Arizona Press, Tucson, at $1.00 per copy.

CHEMOTHERAPY OF BREAST CANCER

To attempt to cover this material is to cover a segment of medical therapy that is extremely controversial. One can probably differ with almost every statement made in this summary. However, in my hands the best results have been obtained by following the course of treatment as here outlined and in consideration of this philosophy of treatment.

Chemotherapy of breast cancer falls under two categories:

1. The chemotherapeutic agents, as Thio-TEPA and Cytoxan, etc.
2. The endocrines, as androgens, estrogens, and the corticosteroids.

In the use of the endocrines, 60% of the cases will be completely hormonal independent and will not respond to the endocrine therapy in any way. The anti-tumor effect of the endocrines in breast cancer is not a neutralization of the opposite sex hormone, for there is a normal coexistence of androgens and estrogen. In fact, treatment with Testosterone not infrequently will increase the level of estrogens in a patient; and this occurs irrespective of the therapeutic effect attained. The mode of action is apparently an elimination of stimulatory factors by the anterior lobe of the pituitary. An analogy can be drawn in considering the action noted wtih the administration of thyroid in patients with cancer of the thyroid. Here our experience has been greater. In these patients by oversupplying the needs of the patient with exogenous thyroid, as giving three or four grains per day, there is no stimulus to the pituitary to produce the thyroid stimulating hormone. This latter is essential to the development of the thyroid cancer while the tumor is still in the dependent phase. It is no longer essential when the cancer becomes autonomous. A comparable situation probably exists in breast cancer.

The mammotropic hormone developed by the eosinophilic cell of the pituitary is apparently an important factor in the development or suppression of breast cancer. It is the follicle stimulating hormone that plays a decisive role in all mammary hyperplasia. Its production is suppressed by estrogens in the absence of functioning ovaries. Its elimination probably suppresses breast cancer that is still in the dependent phase. It does not influence the autonomous cancer.

It is striking that prolactin, the lactation stimulating hormone of the anterior pituitary seems to play no role. The mitotic coefficient of the breast is sharply decreased during the period of lactation. Hyperplasia of the mammary glands occurs during pregnancy when the level of the estrogen is increased. Note, this is hyperplasia in the presence of estrogen in a patient with functioning ovaries. With intact and functioning ovaries, estrogens through the pituitary stimulate the production of progesterone. This progesterone stimulates the production of the follicle stimulating hormone of the pituitary. Estrogen alone, however, will inhibit the production of the follicle stimulating hormone. Consequently, only in the post-menopausal female, or in the patient whose ovaries have been removed can estrogens be effective in the repression of breast cancer.

Therefore, in the pre-menopausal female with progesterone present estrogens are contraindicated, but estrogens may prove suppressive in the post-menopausal female or in the patient who has been castrated.

In the pre-menopausal patient who develops metastasis, castration is recommended. This in itself produces the greatest percentage of remissions and over the longest period. Later with an advance in the disease, that is, after castration or in the post-menopausal female, the initial drug of choice seems to be Testosterone Propionate. However, the rational of therapy with this drug makes one question it. It would seem that the mechanism of its action is to raise the estrogen level, essentially by stimulation of the estrogen production of the adrenal cortex; and the estrogen in turn inhibits the production of follicle stimulating hormone by the pituitary. The therapeutic effect of the androgens is always connected with an abrupt fall or disappearance of the follicle stimulating hormone of the pituitary. If a remission is obtained with Testosterone Propionate, and it can be expected in about 35% of the cases, and later control of the cancer is lost, that drug should be discontinued. One should then wait for a short period before starting another hormone. The patient may have a remission as a result of the withdrawal of this hormone. Following this, however, estrogen therapy may prove of help, and possibly helpful in as high as 45% of the cases. In general, the estrogen should be supplemented by cortico-steroids to bring about a medical adrenalectomy.

Castration as the first step in therapy has been recommended, not only for the pre-menopausal female with disseminated breast cancer, but it has been advocated by many for all pre-menopausal patients with breast cancer whether there is clinical dissemination of the disease or not. This is a step I have not been able to recommend. Castration cures no patient; it suppresses persisting disease. The radical mastectomy in itself can be anticipated to cure 80 to 90% of patients with no axillary metastasis. Therefore, this is too great a price to pay, that is, the artificial menopause for the already cured patient, to only bring about suppressive therapy in the patient who has disseminated disease of unknown magnitude.

In the cancer patient with disseminated disease, after control of the cancer is lost with the above measures, that is following oophorectomy, androgens, estrogens and cortico-steroids, adrenalectomy has been recommended. Again, this is a radical step for what little it has to offer. It is known that there is aberrant adrenal tissue, disseminated in the retroperitoneal areas, and this is tissue that cannot readily be located. Similarly, the procedure of hypophysectomy must be questioned. Pharyngeal pituitary cells in a functional state have been found in patients subjected to hypophysectomy, obviously this again limits the potentialities and possibilities of the effectiveness of this procedure. Either of these procedures, hypophysectomy or adrenalectomy, presents a 9% operative and post-operative mortality. A regression of the tumor is noted in 30 to 32% of the cases when one of these steps is taken. The average time from the surgical ablation of that endocrine to death, that is, following adrenalectomy, is 6½ months; it is comparable following hypophysectomy. The results are very similar whether the metastasis have been to bone, soft tissue or viscera. This level of results, with a mortality of roughly 10%, seems to be too ineffective to recommend in view of surgery of this magnitude. One of the strongest proponents of surgical ablative procedures, particularly adrenalectomy, has been Dr. Ian G. Macdonald of Los Angeles; and at the National Cancer Institute meeting he admitted that probably the replacement by the cortico-steroid does all of the work that these operative procedures can do. Consequently, it would seem that medical adrenalectomy by large doses of cortisone or its more refined derivatives is the desirable procedure rather than recommending additional surgery of this magnitude with questionable and limited results.

No chemical thus far studied has demonstrated a high degree of activity against breast tumors. Regression rates are reported between 0 and 30%. Their margin of safety is very narrow. The difference between the therapeutic level and toxic level is that between 1 to 1½ or 1 to 3. The latter figure is for Cytoxan and it has been one of the more ineffective in breast cancer. It is a narrow margin of safety and we nearly always have to see the toxic level of the drug attained before therapeutic effectiveness can be acquired. ThioTEPA has probably had the greatest clinical application and has certainly been the most widely advertised in this area. It should be reserved for those patients who do not respond to

the hormones. However, at the time of surgery it is probably indicated, although its use and effectiveness is not completely proven. It would seem that present statistics show better results by the administration of ThioTEPA at the time of radical mastectomy — probably in doses of 15 mg. intravenously, and the same dosage to be given on the first two days postoperatively. The initial reports would indicate that the recurrence rate is cut down 50% by these procedures. That is cutting down the recurrence rate of the patient without axillary metastasis from a level of 10-20% to 5-10% and for the patient with axillary metastasis from 60-70% to 30-35%.

Dr. Bateman has been a strong proponent of the use of ThioTEPA and does bring an interesting aspect and an alteration in philosophy in the management of this disease. She encourages that we manage this disease as if it were a chronic illness that we will not eradicate, but that we will suppress over a period of time. She uses ThioTEPA both directly into the tumor site and intravenously, at weekly intervals, over prolonged periods varying her dosage somewhat, but making up her solution at 10 mgs. per cc. Effective suppressive results have been noted in some cases by this procedure.

Direct anti-tumor effect with the chemotherapeutic agents is either cytoxic due to direct action upon already present nucleic acids or antimetabolic due to inhibition of nucleic acid formation.

Cytoxic therapy is considered particularly for breast carcinoma if there is:

1. Malignant effusion.
2. An inflammatory type lesion.
3. Metastasis to soft bone and tumors of relatively small bulk.
4. Advanced cases that are not responsive to hormonal therapy.

Chemotherapy is less effective when the predominant metastasis is to bone.

If surgery of any type is contemplated, chemotherapy should not be so intensive as to produce a thrombocytopenia. Further, if there has been recent irradiation therapy or simultaneous irradiation therapy, there is a decreased dose tolerance because of the hematopoietic depression.

Nitrogen mustard was the first of the drugs used at 0.4 mgs. per kilogram intravenously. Tumor control was only attained in 6% of the cases. If it is used as an intracavitary drug, it is used in the same dosage mixing it with 100 cc. of normal saline solution after draining off the cavity. The position of the patient is changed frequently during the first hour after injection. However, during the first 48 hours after the injection, there may be rapid reaccumulation of fluid which necessitates immediate withdrawal of that fluid. It should be used only in those patients with significant symptoms from their effusion.

ThioTEPA shows objective improvement in one-third of the cases. The results at the M. D. Anderson Hospital have not equaled those that have been reported by Dr. Bateman. The initial loading dose is 2.0 to 2.5 mgs. per kilogram during a two to three week period. This is given as 15 mgs. every second day until the white blood cell count drops to 3,000 or less and then continued at a lesser dosage until the total loading dose is obtained. The maintenance dose is 10 to 15 mgs. once to twice per week.

5-Fluorouracil, an antimetabolite, has shown objective regression in 30% of the cases. However, to produce a tumor effect almost invariably there must be toxicity as stomatitis, diarrhea, and/or leukopenia.

Other drugs used with some success have been Amethopterin (28% regression), Nitromin (27% regression) and Cytoxan (25% regression).

Some 132 million Americans — 73 per cent of the civilian population — had health insurance at the end of 1960, the Health Insurance Council said in reporting the results of its 15th annual survey on the extent of voluntary health insurance coverage in the United States. The survey is based on reports from insurance companies, Blue Cross-Blue Shield, and other health care plans.

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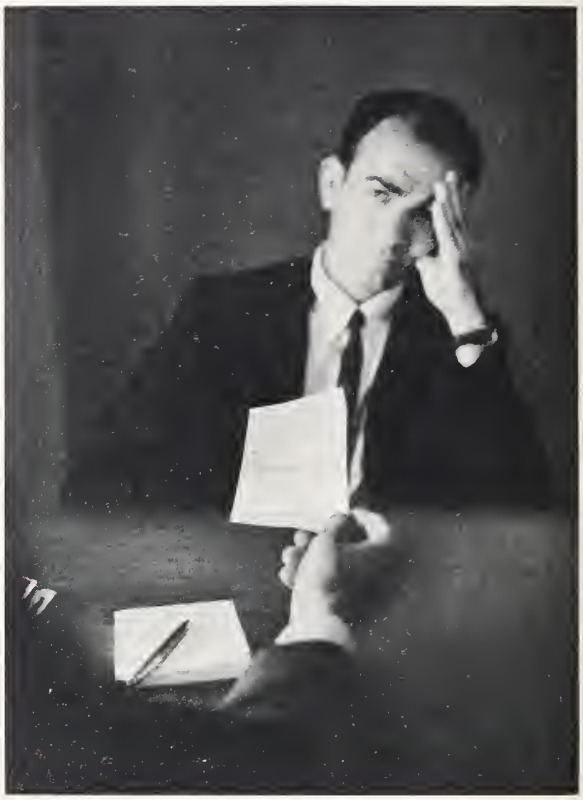
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*Jacques, A. A., and Fuchs, V. H.: J. Louisiana M. Soc. 113:200, May, 1961.



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In Memorium

Joseph Bank, M. D.

January 25, 1898 - May 16, 1961



Joseph Bank, M.D.

Joseph Bank will be missed by his many friends, patients and colleagues. It is fortunate that the Joseph Bank Medal was established in his honor during his lifetime. This award, established by the Maricopa County Medical Society, is to be given periodically to a physician for meritorious and outstanding community service. How fitting and characteristic this medal shall be.

Joe was born at the turn of the century in New York City. He received his M.D. degree from Jefferson Medical College in 1921. He became associated with Henry Bockus, professor of gastroenterology at the University of Pennsylvania Graduate School of Medicine and later was made assistant professor in the specialty at the graduate school.

In 1936, Joe came to Phoenix. He quickly became a leader in medical circles and community activities. He helped to establish the Blue Cross and Blue Shield plans here in Arizona. He was active in legislation to secure the passage of laws for pasteurization of milk and to provide for quarantine of contagious disease cases. He helped to organize the United Jewish Appeal as well as the Zionist Organization of



Ameriea in Phoenix. He was a board member of Temple Beth Israel for many years.

During World War II he served at Beaumont General Hospital, where he headed the large medieal seetion. He was separated from the serviee with the rank of lieutenant eolonel.

Joe Bank was eertified by the Ameriean Board of Internal Medieine in 1942. He was a member of the American College of Physieians and was president of the Southwestern Medieal Assoeiation. We are partieularly indebted to Joe for his ealm and sage adviee as a long-time aetive member of the Board of Direetors of the Mari-eopa County Medical Soeiety. Two years ago, he was named the Ameriean representative to the International Gastroenterology Assoeiation. He wrote many papers on the digestive traet and was author of the section on the examination of the abdomen in the Encyelopedia of Medieine.

The list of medieal and eivie aeeomplishments is long and worthy. But in addition, he was a kindly man, a good and just friend. He is survived by his wife, Ruth, and two sons, David and Daniel.

Jaek Brooks, M.D.



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Topics of Current Medical Interest

Barrow Neurological Institute*

Ground breaking ceremonies for the Barrow Neurological Institute took place on the grounds of St. Joseph's Hospital, Phoenix, Arizona, on January 14th, 1961. On this site the Institute will be constructed. (Fig. 1)

Gathered at these ceremonies were distinguished representatives of the State and Municipal Government, the two Universities located in Arizona, Religion, Hospital Administration, Organized Medicine, Local, State and National, Private Philanthropy and Public Interests. The remarks made by these representatives deserve recording, particularly as they refer to the entire project of constructing this neurological complex from the original idea to the soon to be realized goal of completion. The proceedings in entirety will be a permanent record in the History Archives of the Institute. Certain quotations of the speakers serve to construct a word picture of the enormity, complexity and importance of the project.

Mr. Charles A. Barrow, the major donor: "Over seven years ago we had a dream and now it has almost reached fulfillment. The future holds forth challenges to research." (Fig. 2)

Sister Mary Placida, Administrator of St. Joseph's Hospital, Phoenix, Arizona: "Research is usually not connected with a private hospital — grants are given to universities and schools of medicine for this purpose. We are going to prove that a private hospital can do the job in research just as well."

In effect, the Institute will be a memorial to the late William E. Barrow and to his daughter-in-law, Julia H. Barrow, the late wife of Charles A. Barrow. Mrs. Julia Barrow succumbed from a cerebral oligodendroglioma in 1959. She had been under the care of Dr. John R. Green from 1952 until the time of her death. Undoubtedly the association of the Barrow family with the present Director of the Institute, Dr. Green, served as the major impetus towards the beginning and advancement of the many carefully laid plans which will be culminated when the Institute becomes completed in 1962. Once in operation emphasis will be placed on research and education. Both public and private patients will be treated for neurological disorders.

The Right Reverend Msgr. Robert J. Donahue, V.F.: "Bless we beseech You, this ground and all the work which has gone before this moment by countless willing hearts and able hands."

Dr. Lindsay E. Beaton, President, Arizona Medical Association: "I think it is suitable that a physician stand here as the conductor of this celebration because he can perhaps most fittingly acknowledge the part that is played in modern medicine by persons other than physicians."

Here, in the invocation and opening remarks by the Chairman of Ceremonies who had been introduced by Mr. Thomas Chauncey, Executive Vice President of the Neurological Sciences Foundation, is recognition of the many individuals and of the many faceted problems encountered in this project.

The Hon. Paul Fannin, Governor of Arizona: "It is a great privilege for me to have the opportunity to participate in this ground breaking ceremony which brings this great addition to the science of medical arts here in our state, and the tremendous importance of this venture

*The material constituting the proceedings of the dedication was collected for permanent recording by Mrs. Roberta Hall, Chief Librarian of the Maricopa County Medical Society. The ceremonies were conducted most admirably by Dr. Lindsay Beaton, President, Arizona Medical Association and this article was compiled from the records of the dedication ceremonies for the present publication by Dr. Charles W. Elkins, Neurosurgery Editor, Arizona Medicine.



Figure I
Proposed Barrow Neurological Institute



Figure II
Mr. Charles A. Barrow

brought to reality should be realized by all the people of our state and throughout the nation."

The Honorable Sam Maridan, Mayor of Phoenix: "Our population is close to 450,000 people and we do need these new facilities."

Dr. Robert Nugent, Executive Vice President, University of Arizona, Tucson: "This is indeed an auspicious occasion which makes an important milestone in the history of Arizona and which is characteristic of the magnificent progress which our state has made, and is making, on so many fronts."

The two officials representing state and local government in Arizona and the representatives of the University of Arizona quite properly emphasized the continued growth of this portion of the Southwest and by logical succession this project will fit into its expanding economy and cultural growth. The actual initial plans for the Neurological Institute were formulated in December of 1954.

Rabbi Albert Plotkin, Jewish Churches: "Nothing can be greater in our time than to heal the wounds of a sick humanity."

Dr. Kermit Long, Phoenix Council of Churches: "It is no accident that the church has always been interested in the healing ministry, for whatever concerns the welfare of persons concerns the activity of the church. Disease is no respecter of persons. It strikes regardless of race, color, creed or status in life."

The Barrow Neurological Institute will be nonsecretarian — disease, it is realized, knows no religion. It crosses all lines — race, creed and color — and affects all people regardless of their material wealth or lack of it.

Mr. J. Frank Octigan, President of the Nuerological Sciences Foundation: "The functioning the Neurological Sciences Foundation is simple — it's a financial one. It is the fiscal right arm of the Institute."

Dr. Clarence Salsbury, Commissioner of the Arizona State Health Department: "I doubt if there is any other institution of this kind in Arizona for which Hill-Burton funds have been used up to the present time. But this is a very fine beginning for the use of such funds and for the use of such purposes."

The Neurological Sciences Foundation, which is made up of prominent Arizonans, was incorporated in 1959 and declared a tax exempt, nonprofit organization by the Department of Internal Revenue in 1960. This Foundation comprises the nucleus of many public spirited citizens who are supporting the Neurological Institute. Funds for the Institute were to a large extent donated by the Barrow Family. Federal matching funds (Hill-Burton) were obtained and also contributions were received from the National Institute of Health Research Facilities Division and from the Sisters of Mercy of St. Joseph's. The Neurological Sciences Foundation is committed to the funding of the research and educational programs of the Neurological Institute.

Dr. Robert Price, President of the Maricopa County Medical Society: "This is going to be a great blessing and a great stimulus to our community, for there are few such Institutes of Neurological Research in our country and indeed in the world."

Dr. Donald Polson, President of the Medical Staff of St. Joseph's Hospital: "Heretofore we have been dependent on other states for medical education and for medical progress, the results of research."

Dr. Loyal Davis, Chairman, Board of Regents, American College of Surgeons: "This contribution to the elevation of the care of the ill patient is a project which furthers the high ideals which our great College of Suregons has always proclaimed."

Once in operation, the Institute will serve on three levels: (1) a center for treatment of patients suffering from various organic disorders of the nervous system (2) as a center for basic research into the causes and treatment of nervous diseases (3) as a training center for neurologists, neurological surgeons and related research workers. The patient and his problems are rightfully the core of this integrated twentieth century approach.

Institute activities will be divided into five major divisions: neurology, neurosurgery, neuropathology, neuroradiology and experimental neurology. The problems of neurological patients cross the lines of the major cripplers and killers of mankind. These killing diseases include "strokes," cancer, brain disorders leading to death associated with childbirth, and accidents. Crippling neurological disorders include those which cause mental and emotional disorders, arteriosclerosis of the nervous system, epilepsy, Parkinsonism, cancer under treatment, cerebral palsy, multiple sclerosis and other degenerative

diseases of the nervous system, and muscular dystrophy. The proper diagnosis and treatment of these disorders is the major purpose of the Institute. The development of a team of clinicians and research workers who collaborate, stimulate and exchange ideas about the nervous system in health and disease is the basic organization of the Institute.

Dr. John R. Green, Director of the Institute: "The combination of an exploding population in Arizona, the humanitarian ideals of the Barrow family, outstanding public service of St. Joseph's Hospital, a dedicated medical staff, generous assistance from the medical profession, national and international consultants, architects (Mr. Ralph Morton and his associates) and The Neurological Sciences Foundation — these were the basic ingredients for the creation of the Barrow Neurological Institute.

"The challenge to measure up to this opportunity is recognized by all of us. On behalf of the clinical and the scientific staff, present and future, I wish to express our appreciation for the support that has been given. We wish to dedicate our combined efforts to make this an outstanding institution to treat neurological patients, to educate young men and women, and to do research in neurological sciences." (Fig. 3)



Figure III
John R. Green, M.D., Director
Barrow Neurological Institute

The ground breaking ceremonies for the Barrow Neurological Institute were concluded with the introduction of Mother Monica, representing the Mother House of the Sisters of Mercy and of those individuals already on the Staff of the Institute. These include:

Dr. Eduardo Eidelberg, M.D., at the present time Associate Research Professor of Anatomy at the University of California in Los Angeles, who will be Chairman of Experimental Neurology at this Institute.

Dr. James W. Kernohan, M.D., presently Senior Consultant in Pathology in the Mayo Clinic and Foundation who will be Chairman of Neuro-Pathology at the Institute.

Other members of the present medical staff who were introduced were Dr. Harry F. Steelman, Dr. Hal W. Pittman, Dr. Betty Clements, Dr. John A. Eisenbeiss, Dr. William Helme, Dr. E. Thornton Pfeil, Dr. George Hoffman, Dr. John Schramel, Dr. Kenneth Rew, Dr. James Riordan, Dr. Robert Flynn, Dr. John Hancock, Dr. Onie Williams, Dr. Lorel Stapeley, Dr. Frank Mann, Dr. George B. Kent, Jr., Dr. Heinz F. Hoenecke and Dr. Richard E. McGovern.

Dr. Lindsay E. Beaton: "In the literature of the ancient and of the Renaissance, the man who was a patron deserved an equal place with the artist or the scientist whose works he made possible."

Mr. Charles A. Barrow, together with other members of the family, has contributed well over a million dollars to make possible the construction of one of the most modern complete neurological units of its kind in the world. May the Institute grow and prosper and from the minds of its workers arise the solution of many problems which at the present time seem perplexing. By coordination of activities and integration of ideas in this type of institution will these problems be solved.

Msgr. Donahue: "Grant, we beseech Thee, that what we are starting to build for the glory of Thy name, may by the ever present aid of Thy fatherly wisdom be brought to completion."

Charles W. Elkins, M.D.

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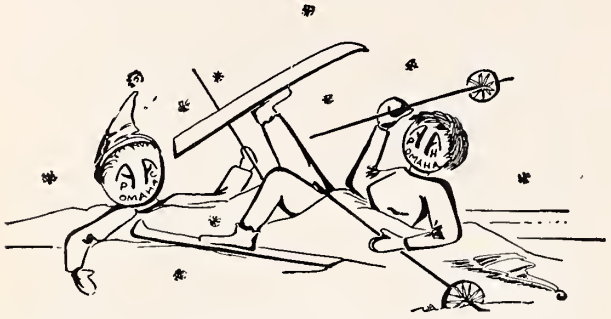
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David A. Karnofsky, M.D.

SPECIFIC AGENTS USED IN CANCER CHEMOTHERAPY

	AGENTS	Principal Route of Administration	Usual Dose	Acute Toxic Signs	Major Late Toxic Manifestations
STEROID COMPOUNDS AND ACTH	**Androgen**				
	Testosterone propionate	I.M.	50-100 mg. 3 x weekly	None	Fluid retention, masculinization.
	Fluoxymesterone (Halotestin®)	Oral	10-20 mg. daily		
	Estrogen				
	Diethylstilbestrol	Oral	1-5 mg. 3 x daily	Occasional	
	Ethinyl estradiol (Estinyl®)	Oral	0.1-1.0 mg. 3 x daily	N. & V.[a]	Fluid retention, feminization, uterine bleeding.
	Progesterone				
	Hydroxyprogesterone caproate (Delalutin®)	I.M.	500 mg. 3 x weekly	None	
	Adrenal Cortical Compounds				
	Cortisone acetate	Oral	50-300 mg. daily		
	Hydrocortisone acetate	Oral	50-200 mg. daily	None	Fluid retention, hypertension diabetes, increased susceptibility to infection.
	Prednisone (Meticorten®)	Oral	20-100 mg. daily		
	Adrenocorticotropic Hormone				
	(ACTH)	I.V. I.M.	25-50 mg. by continuous infusion 10-20 mg. every 3 hrs.	None	
RADIOACTIVE ISOTOPES	**Iodine**				
	(I^{131})	Oral I.V.	100-200 mc.	None	Myxedema, bone marrow depression, renal damage.
	Phosphrous				
	(P^{32})	Oral I.V.	3-7 mc.	None	Bone marrow depression.
	Gold				
	(Au^{198})	Intrapleur. Intrabd.	75 mc. 75 mc.	None	Bone marrow depression.
POLYFUNCTIONAL ALKYATING AGENTS	**Methylbis (B-Chloroethyl) Amine HCl**				
	(HN2, Mustargen®)	I.V.	0.4 mg./kg. Single or Divided Doses	N. & V.	
	Chlorambucil (Leukeran®)	Oral	0.1-0.2 mg./kg./day	None	Therapeutic doses, moderately depress peripheral blood cell count; excessive doses cause severe bone marrow depression with leukopenia, thrombocytopenia, and bleeding. Maximum toxicity may occur two or three weeks after last dose. Dosage, therefore, must be carefully controlled. Alopecia occurs occasionally with cyclophosphamide.
	Cyclophosphamide (Endoxan, Cytoxan®)	I.V.	3.5-5.0 mg./kg./day x 10 (40-60 mg./kg. Single dose)	N. & V.	
		Oral	No Estab. Dose		
	Triethylene Melamine				
	(TEM)	I.V. Oral	0.04 mg./kg. x 3 20-40 mg. in 1 mo.	Occasional N. & V.	
	Triethylenethiophosphoramide (TSPA, ThioTEPA®)	Oral I.V.	5-10 mg./day 0.2 mg./kg. x 5	None	
	1,4-dimethanesulfonyloxybutane				
	(Busulfan, Myleran®)	Oral	2-8 mg./day 150-250 mg./course	None	
ANTIMETABOLITIES	**4-Amino-N^{10}-methylpteroylglutamic acid** (Amethopterin, Methotrexate®)	Oral	2.5-5.0 mg./day	None	Oral and digestive tract ulcerations; bone marrow depression with leukopenia, thrombocytopenia, and bleeding.
	4-Aminopteroylglutamic acid (Aminopterin)	Oral	0.25-1.0 mg./day		
	6-Mercaptopurine (6-MP, Purinethol®)	Oral	2.5 mg./kg./day	None	Therapeutic doses usually well tolerated; excessive doses cause bone marrow depression.
	6-Thioguanine (6-TG)	Oral	2.5 mg./kg./day		
	5-Fluorouracil (5-FU)	I.V.	15 mg./kg./day x 3-5	None	Stomatitis, nausea, GI injury, bone marrow depression.
MISC. DRUGS	**Urethane**	Oral	2-4 gm. daily	N. & V.	Bone marrow depression.
	Potassium arsenite (Fowler's solution)	Oral	0.2-1.0 cc. daily	None	Diarrhea, vomiting, skin eruptions.
	Actinomycin D	I.V.	15 gamma/kg./day x 5	N. & V.	Stomatitis, GI disturbances, alopecia, bone marrow depression.
	Demecolcin	Oral	5-8 mg./day	None	Alopecia, bone marrow depression.
	o-p,'DDD	Oral	2-10 gm./day	N. & V.	Skin eruptions, diarrhea, mental depression, muscle tremors.

Reprinted by permission from the March-April 1961 issue of CA, a Cancer Journal for Clinicians published by the American Cancer Society, Inc

NEOPLASTIC DISEASES RESPONDING TO CHEMOTHERAPY

DIAGNOSIS	Polyfunctional Alkylating Agents	Antimetabolities	Radioactive Isotopes	Steroid Hormones	Miscellaneous Drugs	RESULTS
Leukemia Acute, Children		6-MP Amethopterin		Adrenal Cortical Hormones		70% bone marrow improvement; 50% patients live one year or longer.
Acute, Adults		6-MP Amethopterin		Adrenal Cortical Hormones		15-25% improved for several months or longer.
Chronic Myelocytic	Myleran® HN2	6-MP	P^{32}		Demecolcin Urethane Fowler's solution	Patients maintained in good condition during major portion of disease; life occasionally prolonged.
Chronic Lymphatic	Chlorambucil TEM		P^{32}	Adrenal Cortical Hormones		Patients maintained in good condition during major portion of disease; life occasionally prolonged.
Hodgkin's Disease	Chlorambucil HN2 TEM			Adrenal Cortical Hormones		Occasional favorable response, but no definite prolongation of life.
Lymphosarcoma	Chlorambucil HN2 TEM			Adrenal Cortical Hormones		Occasional favorable response, but no definite prolongation of life.
Multiple Myeloma			P^{32} I^{131}	Adrenal Cortical Hormones	Urethane	Symptomatic relief in about 50% of cases, and objective hematological improvement in 15%.
Polycythemia Vera	Myleran® TEM HN2		P^{32}			Prolonged clinical remissions, particularly with P^{32}.
Carcinoma of Lung	HN2 TEM					Brief improvement in about 50% of cases.
Carcinoma of Ovary	TEM HN2	5-FU				30 to 50% of cases improved for one to three months, sometimes longer.
Carcinoma of Thyroid			I^{131}			Frequently marked improvement in properly selected cases.
Carcinoma of Breast	TEM HN2			Estrogens Androgens Adrenal Cortical Hormones		20 to 50% improved by hormonal therapy; life may be prolonged in some cases.
Carcinoma of Endometrium				Delalutin		35% regression reported.
Carcinoma of Prostate				Estrogens		80% of cases respond to hormonal therapy; definite prolongation of life.
Wilms' Tumor	HN2				Actinomycin D	Temporary regression with 30% pulmonary metastases.
Choriocarcinoma, Female	HN2	Amethopterin				80% respond, of whom 30% show "permanent" regression.
Carcinoma of Colon		5-FU				15% respond for several months.
Carcinoma of Adrenal					o,p'DDD	Tumor regression and decrease in hyperadrenocorticism in selected cases.
Carcinoma of Testis	Chlorambucil*	Amethopterin*			Actinomycin D*	35% of patients show a favorable and sometimes prolonged response.
Miscellaneous Carcinomas and Sarcomas	HN2 TEM Chlorambucil Cyclophosphamide			Adrenal Cortical Hormones		In rare instances, favorable responses occur.

*Given in Combination

REGIONAL CANCER CHEMOTHERAPY

Carcinoma in Facial Areas		Amethopterin + Citrovorum Factor (Intraarterial infusion)				Favorable response of tumors supplied by external carotid artery.
Tumors of the Extremities	HN2 (extracorporeal perfusion)					Response in selected cases.
Pleural, Pericardial and Abdominal Effusions	HN2 (local instillation into appropriate cavity)		Au^{198} $CrP^{32}O^{4}$ (local instillation of drug into appropriate cavity)			About 25 to 50% of patients respond.
Leukemic Involvement Central Nervous System		Amethropterin (intrathecal injection)				About 80% of children with CNS involvement respond temporarily.

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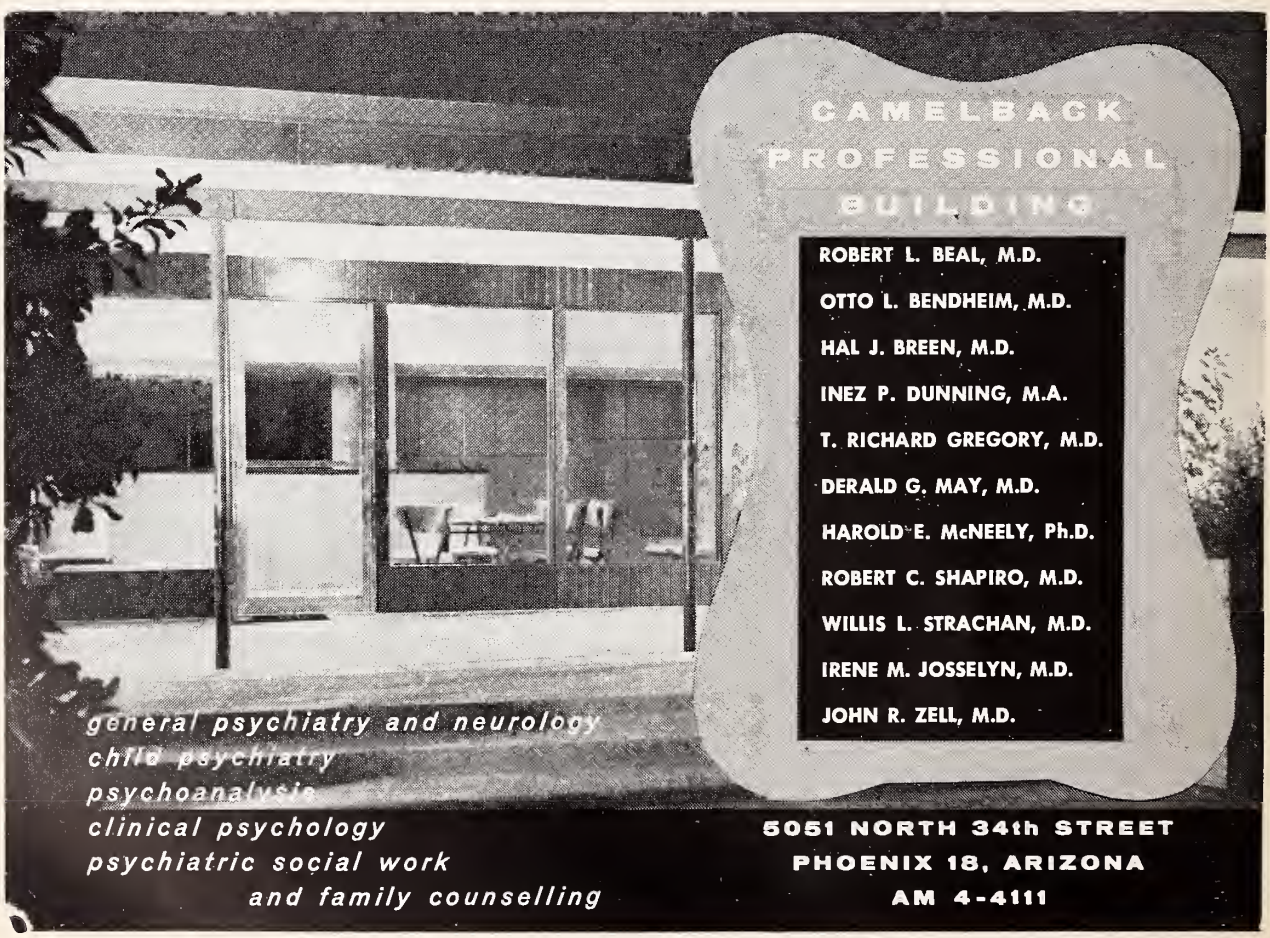
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Future Medical Meetings and Postgraduate Education

REGIONAL MEETINGS
Winter & Spring, 1961-62

December 26-31, 1961
128th Meeting, American Association for the Advancement of Science
Denver, Colorado

February 20-23, 1962
Colorado State Medical Society
Midwinter Clinical Session
Denver, Colorado

March 1-3, 1962
University of Utah College of Medicine
Postgraduate Course — Obstetrics
Salt Lake City, Utah

March 15-17, 1962
Tenth Annual Cancer Seminar
Arizona Division
American Cancer Society
Phoenix, Arizona

March 26-June 7, 1962
Colorado University Medical School
Postgraduate Course — Surgical Anatomy
Denver, Colorado

April 2-5, 1962
Southwestern Surgical Congress
Albuquerque, New Mexico

April 6-13, 1962
American Academy General Practice
Annual Meeting
Las Vegas, Nevada

April 24-28, 1962
Arizona Medical Association
Scottsdale, Arizona

April 27-28, 1962
Western Colorado Spring Clinic
Grand Junction, Colorado

May 9-11, 1962
New Mexico Medical Society
Annual Meeting
Hobbs, New Mexico

June 27-30, 1962
Idaho State Medical Association
Sun Valley, Idaho

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Annual Meeting
December 29-30, 1961
Hilton Hotel
Denver, Colorado

———

MAN AND CIVILIZATION: CONTROL OF THE MIND — — II

The University of California School of Medicine and the Department of Continuing Education in Medicine and Health Sciences announces its second symposium, "Man and Civilization: Control of the Mind — II." This international symposium will be held at the University of California Medical Center, San Francisco, California, January 26-29, 1962.

———

INTERNATIONAL MEDICAL-LEGAL SOCIETY

Announces its
Second Postgraduate Seminar
February 19-23, 1962
Honolulu, Hawaii

———

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The twenty-fifth annual meeting of the New Orleans Graduate Medical Assembly will be held March 12-15, 1962 at The Roosevelt Hotel. A clinical tour to the Mediterranean follows the New Orleans Meeting.

ARIZONA HEART ASSOCIATION
Fifth Annual Cardiac Symposium
January 26-27, 1962
ARIZONA BILTMORE HOTEL
Phoenix, Arizona

FRIDAY, JANUARY 26, 1962

8:00- 9:00 a.m.	Registration — Lobby Entrance
9:00- a.m	Greeting by Dr. Shaw McDaniel, Phoenix, President, Arizona Heart Association
9:15- 9:55 a.m.	External Cardiac Massage and Defibrillation Dr. Alfred Blalock, Baltimore, Maryland
9:55-10:35 a.m.	Changing Concepts of Heart Failure Dr. James V. Warren, Columbus, Ohio
10:35-10:50 a.m.	Intermission — Visit Exhibits
10:50-11:30 a.m.	Effects of Potassium-Glucose-Insulin Treatment on the Electrocardiographic Signs of Myocardial Infarction
11:35-12:15 p.m.	Obstruction and Regurgitation — The Physician and Physicist Dr. Hans H. Hecht, Salt Lake City, Utah
12:30- 2:00 p.m.	Luncheon at the Poolside
2:00- 2:40 p.m.	The Long Term Management of Coronary Artery Dr. James V. Warren, Columbus, Ohio
2:40- 3:20 p.m.	Recurrent Problems in Atrial Fibrillation Dr. Hans H. Hecht, Salt Lake City, Utah
3:20- 3:35 p.m.	Intermission
3:35- 4:30 p.m.	Panel Discussion of Current Cardiovascular Problems Dr. Robert N. Class and Dr. Earl J. Baker, Moderators

SATURDAY, JANUARY 27, 1962

8:30- 9:30 a.m.	Registration continued — Lobby
9:30- a.m.	Greeting by Dr. Harold J. Rowe, President-elect, Arizona Heart Association
9:45-10:25 a.m.	A new Classification of Myocardial Infarction Dr. Demetrio Sodi Pallares, Mexico, D.F.
10:25-11:05 a.m.	Recent Developments in our Knowledge of Syncope Dr. James V. Warren, Columbus, Ohio
11:05-11:20 a.m.	Intermission
11:20-12:00 a.m.	Comparative Studies on Altitude Physiology — An Everyday Lesson Dr. Hans H. Hecht, Salt Lake City, Utah
12:00- 2:00 p.m.	Luncheon
2:00- 2:40 p.m.	Bilateral Bundle Branch Block — Dr. Demetrio Sodi Pallares, Mexico, D.F.
2:40- 3:20 p.m.	Recent Advances in Cardiovascular Surgery Dr. Alfred Blalock, Baltimore, Maryland
3:20- 3:35 p.m.	Intermission
3:35- 4:30 p.m.	Panel Discussion of Current Cardiovascular Problems Dr. George W. King and Dr. Arthur R. Nelson, Moderators

The Dallas Southern Clinical Society

Spring Clinical Conference
March 19-21, 1962
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in conjunction with
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March 15-17, 1962 — Phoenix, Arizona

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Butler's Rest Home 57A

Camelback Hospital 40A
Camelback Professional Building 54A
Case, G. M. Laboratories, Inc. 50A
Classified 54A

Doctor's Directory 57A

Franklin Hospital 53A

Hllcrest Medical Center 57A
Hobby Horse Ranch School 53A
H.B.A. Life Insurance Co. 44A

Lederle Laboratories 26A
Lilly, Eli & Co. Front Cover, 16A
Loftins Business Forms 50A
Loma Linda Food Co. 37A
Lorillard, P. & Co. 34A

Mead Johnson & Co. Back Cover

National Casualty Co. 49A
Nurse's Directory 57A

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P.B.S.W., Co. 62A
Pfizer Laboratories, Inc. 35A, 36A
Pharmaceutical Manufacturer's Assoc. 61A
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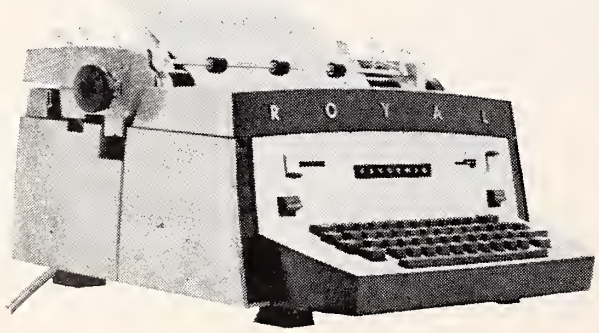
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Roche Laboratories 21A
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